UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MAY 22 2006

Mr. Keith R. Reed, President
Environmental Protection Services, Inc.
4 Industrial Park Drive
P.O. Box 710
Wheeling, West Virginia 26003-0091

Dear Mr. Reed:

By this letter, the National Program Chemicals Division (NPCD) of the U.S. Environmental Protection Agency (EPA) renews the Toxic Substance Control Act (TSCA) PCB Disposal Approval issued to the Environmental Protection Service, Inc. (EPS) to operate two PCBX™ mobile units. This Approval authorizes EPS to destroy PCBs using chemical dechlorination technology. This nationwide PCB Disposal Approval becomes effective upon signature, expiring on February 5, 2011.

Mr. Guy Donzella, EPS Environmental and Safety Manager, requested by letter dated August 5, 2005, to renew the EPS PCB Disposal Approval. Subsequently, EPS conducted a PCB Disposal demonstration during January 11 and 12, 2006. NPCD observed the operations and collected split samples of the waste feed and the treated material. Results of the analysis (Appendix) indicate that the EPS PCBX™ mobile units are capable of destroying PCBs to levels equivalent to incineration as required by PCB regulations.

EPA requires EPS to submit closure and financial assurance documents for review. During the PCB Disposal Demonstration, EPS presented an original copy of the trust agreement to EPA, drawn up to satisfy the requirement in Condition 15 of this approval. Additionally, operational schedules required by Condition (1)(b)(2) were examined for the year 2005. The schedules revealed that Rig 6 operated continuously at the EPS Wheeling, West Virginia work site from January 6, 2005 through April 20, 2005. Further examination of EPA files revealed that Rig 6 began to operate on a continuous basis at the EPS Wheeling, West Virginia plant beginning October 14, 2004 through the end of year and ending on April 24, 2005. This totals 193 consecutive days through which Rig 6 operated continuously at the EPS Wheeling, West Virginia plant.

Condition (1)(a) of this approval defines Mobile Operations as those operating at any one location for less than 180 consecutive days and Permanent Operations as those operating at any one location for 180 days or longer. Clearly, the 193 consecutive days of operating at the Wheeling site is contrary to the permit conditions for mobile operations. As a result, EPS shall review semiannually during the months of February and August of each year, and maintain a list

CONCURRENCES								
SYMBOL ▶	7404T	7404T	7404T					
SURNAME ▶	Dodohara	Canavan	DOE					
DATE ▶	5-15-06	5-18-06	5/22/06					

EPA Form 1320-1A (1/90) *Printed on Recycled Paper* **OFFICIAL FILE COPY**

* U.S. Government Printing Office: 2005 206-899 (mac)

of companies serviced during the previous six months including the dates the services were provided. This list shall be maintained aboard the mobile units and in a centrally located area. This requirement has been incorporated as permit Condition 7(f).

EPA grants this approval based upon: (1) the ability of the EPS PCBX™ chemical dechlorination units to destroy PCBs in mineral oil dielectric fluids (MODEF) and other oils to a level below 2 ppm with no PCB emissions to air or releases to water and (2) upon the Agency's conclusion that the EPS PCBX™ units do not present an unreasonable risk of injury to health or the environment. (For alternative technologies to demonstrate equivalence to incineration, EPA finds that chemical dechlorination methods must maintain PCB residuals less than the practical limit of quantitation (LOQ). EPA has designated the practical LOQ of PCBs in oils to be 2 ppm).

Please note that this approval supersedes all previous EPA Headquarters and regional approvals or amendments for the EPS PCBX™ mobile dechlorination units and may be suspended, revoked, or further conditions may be added to it at any time EPA has reason to believe that operation of the EPS PCBX™ process presents an unreasonable risk of injury to health or the environment. Suspension or revocation of the approval or imposition of further conditions may also result from future EPA rulemaking with respect to PCBs. Moreover, violation of any condition included as part of this approval may subject EPS to enforcement action and/or suspension or revocation of the approval.

EPS may not blend PCB-laden MODEF or oils to reduce the PCB concentration to within the appropriate maximum permissible concentration for treatment. Please be advised that amendment of EPS's approval to treat higher concentrations of PCBs in a specified fluid may be considered if EPS demonstrates such capability to the satisfaction of EPA. Such demonstration may be accomplished either during commercial processing or through other controlled experimentation. Authorized EPA representatives may be present to witness the demonstration and obtain split samples for verification of analytical results.

It is the responsibility of you and your company, EPS, Inc., to comply with all applicable provisions of TSCA and the Federal PCB Regulations in processing the PCB-containing fluids. Violation of any of the applicable provisions of the conditions of approval may be cause for suspension or revocation of this approval. Furthermore, this approval does not relieve you of the responsibility to comply with all other applicable Federal, state and local regulations and ordinances for transportation, siting, operation, and maintenance of the EPS PCBX™ Mobile Chemical Dechlorination Units.

EPS shall maintain financial assurance for closure within the context of the existing closure plan throughout the effective dates of this approval. In addition, EPS must maintain liability insurance coverage throughout the effective dates of the approval. These provisions shall comply with the financial assurance requirements of 40 CFR 761.65 (e), (f), and (g).

EPA reserves the right to inspect the EPS mobile units to be used for the disposal of PCBs and the records which EPS is required to maintain under Federal PCB Regulations and this approval during operation and at other reasonable times.

Please contact Hiroshi A. Dodohara of my staff at (202) 566-0507 if you have any questions pertaining to this approval.

Sincerely,

Maria J. Doa Ph.D.
Director
National Program Chemicals Division

Enclosure

cc: Regional PCB Coordinators
EPA Regions I-X

Appendix

Analytical Results of Process Samples from the
PCB Disposal Approval Demonstration
at
Environmental Protection Service, Inc.
Wheeling, West Virginia

January 11 and 12, 2006

Sample ID	EPA Lab[A] Results (mg/kg)	EPS 3rd Party[B] Lab Results, ppm	EPS Field Lab Results, ppm	
			Aroclor 1242[C]	DCMA[D]
#22321 initial	45.44	198.0	88	NA
#22321 final	0.89	< 1.0	0.1	0.1
#22322 initial	37.41	111.0	88	NA
#22322 final	1.66	< 1.0	0.3	0.3
#22323 initial	36.66	111.0	97	NA
#22323 intermediate	1.58	< 1.0	0.2	NA
#22323 final	≤ 0.1	< 1.0	0.2	0.2

[A] Modified Method 680 using GC/LRMS
[B] EPA Method 8082, reported as Aroclor 1242/1260
[C] EPA Method 8082, reported as Aroclor 1242
[D] EPA Method 8082, using DCMA standard

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF	)	APPROVAL TO DISPOSE
	)	
ENVIRONMENTAL SERVICES, INC.	)	OF POLYCHLORINATED
	)	
4 INDUSTRIAL PARK DRIVE	)	BIPHENYLS (PCBs)
	)	
WHEELING, WEST VIRGINIA	)	

AUTHORITY

This approval is issued pursuant to Section 6(e)(1) of the Toxic Substances Control Act of 1976 (TSCA), Public Law No. 94-469, and the Federal PCB Regulations, 40 CFR 761.60(e) (48 FR 13185, March 30, 1983). Background and Findings related to this approval are attached to this approval as Appendix I and II.

EFFECTIVE DATE

EPS is the sole operator of a process known as PCBX™ which chemically destroys PCBs and recycles liquid hydrocarbon products (LHCP) and mineral oil dielectric fluid (MODEF) using one or more mobile units. The Environmental Protection Agency (EPA) has carefully scrutinized EPS's PCBX™ operations. In addition, EPA has audited and observed numerous demonstrations of the PCBX™ process capabilities. Pursuant to 40 CFR 761.60(e), EPA finds that the EPS PCBX™ process (when operated in accordance with the conditions of this approval) is equivalent to an approved incinerator for treatment of MODEF and other oils and that it does not pose an unreasonable risk of injury to human health or the environment. This approval to operate nationwide shall **become effective upon signature and terminate on February 5, 2008.**

CONTENTS

DEFINITIONS

"Analytical data" means (a) a formal report from a chemical analysis laboratory or (b) appropriate chemical instrument print outs with appropriate controls, standards, and written instrumental operating parameters and conditions or (c) a statement that the "assumption" rule has been used. Technical judgment or experience is not considered analytical data.

"Appropriate local jurisdiction" means the incorporated city where the PCBX™ unit will be operated, or the county, if the PCBX™ unit will be operated outside the boundary of an incorporated city.

"Business hours" means 8:00 a.m. to 5:00 p.m. local time on weekdays except United States Government Holidays.

"Change in scale" means: (a) a doubling or more of the volume of Waste Feed notified to be treated at a site, if the increase is greater than 2000 gallons; or (b) for amounts of PCBs to be treated at a site greater than 5 pounds, an increase of the amount of PCBs to be treated by one order of magnitude or more.

"Day" means a calendar day, unless otherwise specified.

"Duplicate analysis" means two gas chromatographic analyses of the analyte prepared from one sample of MODEF or other material.

"Frequent site changes" means site changes at a rate of more than once per week.

"High PCB levels" means PCBs at a concentration greater than 6,300 parts per million (ppm).

"Job" means all PCBX™ disposal operations for a single customer within fifty road miles of a central location. A job may consist of PCBX™ disposal operations at several different sites for a single customer.

"Lifetime exposure risk" means the risk to an average adult individual who is exposed to a stated average concentration of a toxic material daily over the course of a 70 year lifetime.

"Lost time injury" or "Lost workday injury" means an injury related to the operation of the PCBX™ process which results in an employee not performing his/her normal assignments during the workday and/or any successive workday(s) following the day of the injury.

"Major modification" means any change to capacity, design, or efficiency of the PCBX™ unit or process, change of waste type, or any other changes significantly affecting overall performance or environmental impact.

"Minimal," with regard to an amount of PCB wastes means less than ten percent (10%) of total wastes treated.

"Mobile operations" means those operations where the PCBX™ mobile unit remains at a site for less than 180 consecutive days.

"Operations" means the process of treating PCBs, including set up and take down of the PCBX™ unit as well as actual treatment.

"OPPT" means the Office of Pollution Prevention and Toxics (7404T); (202) 566-0500 (PCB Office); Fibers and Organics Branch (7404T); (202) 566-0514; Facsimile (202) 566-0473.

"PCB" means polychlorinated biphenyls as defined in 40 CFR 761.3.

"PCB release" and "PCB spill" have the same meaning as "spill" as defined in EPA's PCB Spill Cleanup Policy in 40 CFR 761.123.

"Permanent operations" means those operations where the PCBX™ mobile unit remains at a site for 180 consecutive days or longer.

"Process Failure" means the inability of the PCBX™ unit to treat the feedstock for reasons other than contaminants in the MODEF or other oil (such as chlorinated solvents).

"Site" means the geographically contiguous property unit (such as a single manufacturing plant) at which the PCBX™ disposal operations are conducted. More than one transformer may be serviced at a single site.

"Site location" means a street address or a directional description which would allow a site to be found by an EPA inspector.

"Year" means 365 days.

CONDITIONS OF APPROVAL

1. Advance Notification

a. Overview.

EPS shall provide a nonconfidential, advance written notification of intent to operate to be received by the addressees (as described below) prior to the conduct of a permitted PCB disposal activity. The addressees shall include, at a minimum: EPA Headquarters' Office of Pollution Preventions and Toxics (Mail Code: 7404), the appropriate EPA regional office, the appropriate state agency, and the appropriate local jurisdiction.

The written advance notification requirements are divided into two categories based on the length of time EPS is at a single site. In general, categories are defined below and advance written notification requirements follow:

Mobile Operations

Those operations where the PCBX™ unit remains at a site for less than 180 consecutive days.

Permanent Operations

Those operations where the PCBX™ unit remains at a site for 180 consecutive days or longer.

The information which must be included in the advance written notification for each category is described in sections 1.b.- d. below. Advance notification requirements may be waived at Superfund sites according to § 121(e) of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and its implementing provisions at (40CFR 300.400(e).

b. Mobile Operations

(1) The following information must be included in a 30-day advance written notification to the addressees required to be notified under 1.a. The information is provided for public information purposes and for facilitating scheduling of government compliance monitoring and oversight of PCB disposal operations.

A. Company identification: EPS's and client contacts' name and telephone number.

B. Names, titles, addresses, and telephone numbers of the addressees required to be notified by 1.a.

C. The nature of the PCB disposal activity, including estimates of the amount and type (e.g., MODEF (mineral oil dielectric fluid), hydraulic oil, heat transfer oil) of PCB material to be treated and estimates of the concentration of PCBs in the material. The estimates shall be based on any one or combination of the following:

i. Analytical data or the results of analytical data provided by the customer; or

ii. EPS analytical data; or

iii. A statement that the customer has applied the "assumption rule" codified at 40 CFR 761.3 defining PCB-Contaminated Electrical Equipment.

D. The site location(s) and a telephone contact(s).

E. The time(s) and date(s) the PCB disposal activity is scheduled to take place.

An acceptable sample form for the 30-day advance written notification of intent to operate under mobile operations is included as Appendix III A.

(2) For PCBX™ operations under Mobile Operations where there are frequent site changes, the following additional notification is required:

A. Every week, EPS shall provide by telephone facsimile transmission, a two-week activity schedule to the OPPT and the EPA regional contact for each region where a PCB disposal activity will occur. This two-week activity schedule shall include for each job:

i. EPA region where the PCBX™ unit will be located;

ii. Most probable date that the PCBX™ unit will be performing PCB disposal activities;

iii. The time(s) and date(s) the PCB disposal activity is scheduled to take place;

iv. The expected number of sites; and

v. Either:

(a) the county or counties where PCB disposal activities will occur, or

(b) a notice that the PCBX™ unit will operate within a 50-mile radius of a specific location identified by a client telephone contact and client address.

An acceptable sample form for the two-week activity schedule under mobile operations is included as Appendix III B.

B. If a change in the most probable operating date or a change in scale for a job is made more than 2 days in advance of the most probable operating date, as stated in the most recent two-week activity schedule transmitted to EPA, EPS must send a telephone facsimile message noting the change to the appropriate EPA regional contact at least 2 days in advance of the most probable operating date, as stated in the two-week activity schedule

If the change in the most probable operating date or the change in scale is made 2 days or less in advance of the most probable operating date, as stated in the most recent two-week activity schedule transmitted to EPA, then the next scheduled telephone message update shall include the change.

C. EPS shall operate a recorded message system accessible 24 hours a day by EPA Regional Compliance Monitoring staff and OPPT staff. The recorded message must include the following information for each of EPS's PCBX™ operations in the United States:

i. site location (street address or directional description), client contact and phone number;

ii. scheduled completion date of current job; and

iii. company identification and scheduled start date of next job.

The message shall be updated daily between 7:30 a.m. and 8:30 a.m. EST/EDT and between 4:30 p.m. and 5:30 p.m. EST/EDT on weekdays (except for official U.S. Government holidays). If this recorded message is considered confidential business information, the message may be accessed by a code distributed to the EPA regional contacts and OPPT officials below.

Samples of acceptable forms for the required notifications under Mobile Operations are included in Appendix III. Other forms providing equivalent information may be used.

EPA CONTACTS

Name, Region	Telefax Number	Contact Number
Hiroshi Dodohara, EPA HQ.	(202) 566-0473	(202) 566-0507
Kim Tisa, Region I	(617) 918-1810	(617) 918-1527
Dan Kraft, Region II	(732) 321-6788	(732) 621-6669
Kelly Bunker, Region III	(215) 814-3114	(215) 814-2177
Craig Brown, Region IV	(312) 353-4788	(312) 353-2291
Lou Roberts, Region VI	(214) 665-7446	(214) 665-7579
Mazzie Talley, Region VII	(913) 551-7065	(913)-551-7518
Dan Bench, Region VIII	(303) 312-6044	(303) 312-6027
Max Weintraub, Region IX	(415) 947-3583	(415) 947-4163
Dan Duncan, Region X	(206) 553-8509	(206) 553-6693

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c. Permanent Operations

EPS must submit an advance written notification of permanent operations to the addressees at least 180 days in advance of the proposed Permanent Operations at a site. When an EPS PCBX™ unit is to be operated at a site for 180 consecutive days or more, the following information must be included in the notification and verified by EPA to conform to the informational requirements before the 180-day review period can begin. This advance written notification shall include a site evaluation and must include the following:

(1) All information required under items 1.b.(1) through (5) of Mobile Operations.

(2) Additional information presented below:

A. estimates of fugitive emissions of PCBs and any other hazardous materials;

B. amounts of waste generated during the entire operation and how that waste will be disposed;

C. plans of action in case of an emergency (including arrangements with local fire fighters, law enforcement personnel, and public health officials);

D. site-specific spill prevention control and countermeasures (SPCC) plan or containment installations and procedures; and,

E. site cleanup or restoration procedures and copies of any bonds which may be required by a state or local authority or by the client for the EPS operations.

(3) Details of the Site Evaluation

The following information must be submitted to OPPT and the appropriate EPA region as part of a notice of intent to operate a permitted mobile disposal unit (MDU) at a site for 180 consecutive days or longer. A public notice will not be published until a complete submission of these requirements has been received and approved by EPA.

There are a number of details which were submitted to EPA as part of the original PCB disposal permit application which must be updated or revised. All of these details are directly or indirectly related to the site of operations.

A. Project Personnel

A list of names and an organizational chart, brief job description, and responsibilities for all staff to be employed by the permittee at the proposed site. In addition, names, mailing addresses, and telephone numbers of primary EPS contacts with EPA, such as environmental affairs managers or government liaison contacts. Job qualifications and training, including the time, frequency and content, must be included.

B. Facility Description

The facility description shall include details of the disposal operations as they apply to the physical layout at the disposal site. To be included are (1) a site layout, to scale, of the location where operations will occur, and (2) the location of safety equipment, including but not limited to fire protection equipment, disposal equipment, supplies, waste handling equipment, waste loading and unloading points for transportation, flood proofing protection structures, security structures.

If the disposal operation will be at a previously developed site, in addition to the above requirements, other site modifications must be described and justified. Buildings for personnel, construction, maintenance and laboratories are exempted, unless there are discharges from operations of a mobile unit to the environment. Laboratory vents, sewer discharges from the laboratory or any area that may be associated with any contact with PCBs or any hazardous waste handled or generated as the result of PCB disposal must be discussed. Also, discussions of all storage facilities and their containment, process water systems, and other waste stream processing shall be included.

C. Disposal Activities to Be Conducted On-Site

A summary of the process operations which are described in detail in the original permit application shall be submitted, not to exceed one typewritten single spaced page. The permittee shall discuss activities and the amount of time involved in setting up and taking down disposal operations of the MDU at the site. Also, the permittee shall provide a discussion of: monthly and annual amounts and concentrations of waste and amount of PCBs to be processed; amounts and concentrations of PCBs and other hazardous materials stored on site; amounts and concentrations of contained, controlled, and fugitive emissions of toxic and non-toxic materials and how contained materials will be disposed of; proposed hours of operations; and expected duration of disposal activities at the site.

D. Safety Measures

The permittee must describe systems and/or structures for the detection and/or containment of leaks and hazardous wastes/by-products must be described, including process shutdowns resulting from automated monitoring of process emissions. A brief discussion of the automatic process controls, such as those which control extreme temperature and pressure fluctuations or departure from a permitted range, must be included. The location and action plans for all other emergency equipment shall be provided. Maintenance plans and schedules shall be provided. Safety and/or quality control/quality assurance inspection schedules, procedures, and recordkeeping must be detailed.

E. Emergency Preparedness and Contingency Plans

Emergency preparedness plans must be submitted to local authorities and approved by the EPA region. These plans shall include (1) exactly what actions take place for each level of problem, (2) the names of the persons responsible for handling expected problems, and (3) facility personnel names and appropriate phone numbers for 24-hour a day contact in the event of an emergency. Frequent problems and reasonable worst case problem scenarios such as: spills during processing, storage, and transportation; fires; floods; and equipment malfunction resulting in personal injury must be addressed. The information shall include (1) names and phone numbers of fire, police, medical emergency contacts, and (2) training sessions, documents, or other information provided to these services.

F. Transportation Routes and Volumes to be Transported to the Site

Transportation route information shall be detailed if such routes include any roads other than interstate highways. Information shall include residential or commercial areas associated with the roads to be used by hazardous waste transporters. Amounts, volumes, and locations of off-site PCB materials which are proposed to be transported to the PCB disposal site shall be listed. Information on the off-site and on-site storage of the off-site materials (including but not restricted to location, brief description of the release control/containment measures at the storage facility, and the estimated time to be stored at the location), shall also be listed.

G. Financial Assurance and Closure

The permittee shall summarize the financial assurance and closure provisions from the permit application including what situations are covered by insurance or other financial assurance and the amount of the assurance. Additional financial assurance and closure provisions for the time of extended PCB disposal operations at the site must be described in detail.

H. Exposure Assessment

An exposure and risk assessment shall be provided for activities included in normal operations and in the event of reasonable worst case accidents/problems. The exposures shall include those resulting from: storage, contained and fugitive emissions, handling and processing PCBs and other hazardous waste/process materials, operation of industrial equipment, and transportation related releases such as spills and collisions.

The information shall include an assessment of risk to the public from:

i. lifetime exposure to process operations;

ii. the transport of PCB waste to the site; and,

iii. on-site storage of PCB waste for disposal.

Situations which are not considered reasonable worst case situations are a double tornado, a terrorist attack, a nuclear strike, a plane crash into the facility, a meteor strike, and damage from an earthquake when there is not an active major geological fault near enough to expect major plant facility damage and release of PCB material.

(4) Public Participation

EPS shall provide public notice in the local newspaper initiating a 30-day comment period for public review of appropriate permit related documents (such as the sanitized non-confidential business information) permit application, any existing PCB disposal permit, any existing draft revised PCB disposal permit, and the site evaluation). The notice shall also advise that, if EPA determines that there is sufficient public interest, a public meeting will be held on a specified date and at a specified place and time not more than 45 days after the initial public notice.

After EPS has given the EPA regional office, the state agency, and the local jurisdiction a notice of intent to operate at a site for at least 180 consecutive days or more, and once OPPT and the local EPA region are satisfied that the site specific information submitted in this notice meets the requirements set forth in paragraphs (1), (2) and (3) above, a 180-day public notification and review process shall begin.

Based on the comments and questions received during the 30-day comment period, the EPA region will determine whether a public meeting is necessary. The public meeting shall be held: (a) to discuss comments made by the public during the 30-day comment period and notification for the public meeting; (b) to allow the public to make comments on the proposed operations and site; and (c) to allow the public to ask questions of EPA representatives on the proposed operations.

The public meeting will be hosted by the EPA region. OPPT and the EPA region may collectively determine what the schedule and the agenda for the public meeting shall be.

Not more than 150 days after the close of the public comment period, EPA shall make a decision on the authorization of Permanent Operations and on what additional conditions, if any, shall be imposed on the EPS Permanent Operations. The decision will be based on review of comments during the 30-day comment period and comments made during the public meeting. The decision could be that EPS may begin operations without additional permit conditions, or the decision could be made to require additional site-specific permit conditions which must be met before Permanent PCB Disposal Operations may begin at the site.

d. Requirements for Changing from Mobile Operation Mode to Permanent Operation Mode

Whenever a PCBX™ unit originally projected to be located at a single site for less than 180 consecutive days as Mobile Operations, at some point before 180 consecutive days into the operations EPS determines that the unit will be located at the site for 180 consecutive days or longer, EPS must proceed as follows:

(1) EPS must immediately provide written and telephone notification of this change to the EPA Headquarters' Office of Toxic Substances (OPPT) and the appropriate EPA regional office.

(2) Upon submission of this notification, EPS shall cease PCB disposal operations after the 180th consecutive day unless EPS provides OPPT and the EPA regional office a site evaluation, which includes all information prescribed in sections c.(1) - (3) above. The information must include updated material for the operation in question, including any modifications, to allow EPA to consider operations for the time period beyond the 180 consecutive days.

(3) Upon review and acceptance of the site evaluation, EPS must provide for public notice of the application for approval and a 30-day comment period along with an opportunity for a public meeting or hearing as described in section 1.c.4 above.

(4) When the comment period is concluded, OPPT and the regional office will determine, in its discretion, that operations may proceed beyond 180 consecutive days. EPA will notify EPS in writing of its approval to operate beyond 180 consecutive days.

2. Feedstock Quality and Restrictions

a. The EPS PCBX™ Process, as described in the design drawings and explanations on file in the Office of Toxic Substances and as demonstrated to EPA in February 1988, may be used by EPS to destroy PCBs in MODEF or other oils. The concentration of PCBs in MODEF shall not exceed 14,500 ppm. The concentration of PCBs in other oils shall not exceed 2,600 ppm.

b. Prior to treatment, the MODEF or other oil must be sampled and analyzed by gas chromatography for the concentration of PCBs in accordance with EPA-approved procedures for the PCBX™ field laboratory outlined in Sunohio's April 1984 application approved by EPA.

c. EPS may not blend or dilute PCB contaminated MODEF or other oil to reduce the PCB concentration of the feedstock material to meet the permitted treatment levels.

d. When EPS intends to treat oils other than MODEF, EPS must notify the Chief of the Fibers and Organics Branch, EPA Office of Pollution Prevention and Toxics in writing at least 30 days in advance of proposed operations. The notice to EPA-OPPT must include the type (e.g., hydraulic oil, heat transfer oil) and the quantity of oil to be treated and the location of the operation.

e. Whenever feedstock is handled through an intermediate tank(s), such as in treatment of bulk quantities of oils, the intermediate tank(s) must be clearly labeled as to purpose. As an example, feed tanks must be labeled as such, as distinguished from product tanks or in-process holding tanks. These tanks must be labeled, for instance, "FEED TANK," "PRODUCT TANK," and "IN-PROCESS HOLDING TANK." The requirement for labeling will clearly separate feed material from in-process material from finished product so that EPA inspectors and auditors may readily confirm, by sampling and analysis, that PCB feed materials are being properly disposed of.

f. EPS, Inc. is restricted to treating MODEF up to a concentration of 14,500 ppm PCBs. When treating MODEF at high PCB levels, EPS, Inc. must follow procedures different from those operations treating below 6,300 ppm PCBs. Special permit conditions relating to the operations and disposal of filter media are described in Condition No. 6 and 10

g. Should EPS successfully demonstrate to EPA through controlled experimentation that the EPS PCBX™ Process is capable of treating higher concentrations of PCBs in MODEF or other oils, the concentration levels set forth in this condition may be modified accordingly. Authorized EPA representatives may witness the demonstration and obtain split samples for verification of analytical results.

3. Process Control

A sample from each run of treated MODEF or other oil must be drawn and analyzed in duplicate (i.e., duplicate analysis) by gas chromatography for the concentration of PCBs at the site where the EPS PCBX™ Process is being used. If the concentration of PCBs in the treated sample is 2 ppm or greater per resolvable gas chromatographic peak (as calculated by comparison to an external standard homolog peak having the nearest retention time to each appropriate PCB peak to be quantified), the fluid must be reprocessed and analyzed until the fluid is reduced to less than 2 ppm PCBs per resolvable gas chromatographic peak (according to the aforementioned method and procedures) before the next run is begun. If the fluid fails to attain a level less than 2 ppm PCBs, the fluid must be disposed of as if it contained PCBs at the level in the original fluid.

When Aroclor patterns are detected in the chromatograms of treated MODEF or oil, then if the concentration of PCBs in the treated sample is 2 ppm or greater per resolvable gas chromatographic peak (as calculated by comparison to an external standard homolog peak having the nearest retention time to each appropriate PCB peak to be quantified) or if the Aroclor level (total PCBs concentration) is greater than 2 ppm, the fluid must be reprocessed and reanalyzed to show less than 2 ppm per resolvable gas chromatographic peak (according to the afore-mentioned method and procedures) and per Aroclor level before the next run is begun or the fluid must be disposed of as if it contained PCBs at the level in the original fluid.

At their discretion, EPS may introduce up to 2 gallons/minute of the additive as described in EPS's May 2, 1991 memorandum. The additive must be injected at the point in the process where the feedstock enters the PCBX™ mobile unit.

4. Requirements Prior to the First Commercial Task. (Not Applicable)

a. Fourteen (14) days prior to EPS's first PCB commercial job, EPS must notify EPA of the impending project. EPS must demonstrate the effectiveness of the PCBX™ process during the first commercial job.

b. Within sixty (60) days after signature of this approval, EPS must submit for EPA review and acceptance, a closure plan and financial assurance documents pursuant to Condition 16 of this approval..

5. Mobile Unit Decommissioning/Malfunction

If the quality control testing, as described in Condition 3, reveals that feedstock cannot be successfully processed in the PCBX™ process and EPS must resort to the condition "or the fluid must be disposed of as if it contained PCBs at the level of the original fluid," then EPS must notify the EPA Regional PCB Disposal Coordinator in the applicable EPA region prior to moving the PCBX™ unit off site. EPS shall determine if the unsuccessful processing is due to contaminants in the fluid or process failure. If the PCBX™ unit successfully processes all the fluid from the next three consecutive sites, the cause of the unsuccessful processing shall be assumed to be contaminants in the fluid and not process failure. If repeated incidence of process failure occurs, the affected unit must cease operation and EPS must notify the Chief, Fibers and Organics (202) 260-3933, as well as the Regional Coordinator during the next business day, and file a written report with each of them within 7 days. Repeated process failures are signs of process malfunction and must be reported so that EPA is able to maintain accounting of working commercial units. The affected unit shall not resume operation until the problem has been corrected to the satisfaction of the Chief, Fibers and Organic Branch. A unit which has been decommissioned must also be reported immediately to the Chief, Fibers and Organics Branch at EPA Headquarters and the Regional PCB Coordinator for the EPA region in which such unit is decommissioned.

6. Process Waste Restrictions

a. All wastes generated by the EPS PCBX™ process shall be treated or disposed of as shown by Table 1. Process Waste Restrictions.

b. Waste streams, except for Fuller's earth filters and aqueous centrifuge waste, must be disposed of as if the waste stream contained the PCB concentration of the original feedstock, as required by the "dilution rule" at 40 CFR 761.1(b).

c. Fuller's earth filters must be sampled and analyzed for PCB content as specified in Appendix IV. Such filters which upon analysis are found to contain 2 ppm or greater PCBs per resolvable gas chromatographic peak must either be reprocessed to less than 2 ppm per resolvable gas chromatographic peak or disposed of in accordance with the "dilution rule" at 40 CFR 761.1(b).

d. (1) EPS may dispose of the caustic aqueous waste from the centrifuge operations by (i) disposing of the caustic waste in an EPA-approved PCB disposal facility, or (ii) disposing the caustic waste at the CyanoKEM treatment facility for neutralizing acidic

wastes. CyanoKEM, Incorporated is located in Detroit, Michigan. CyanoKEM operates under a state-approved RCRA permit and under a pretreatment standard pursuant to the Clean Water Act. Effluent from the neutralization process is discharged into a NPDES-permitted POTW system.

(2) EPS must ensure that the sampling and analysis of the neutralization process complies with the Detroit Water and Sewerage Department Wastewater Discharge Permit - Type 3, Permit No. 005-034. The permit does not require analysis of samples for PCBs. Under this TSCA permit EPS must ensure that monitoring samples collected pursuant to the Detroit permit is analyzed for PCBs. The discharge must comply with the Detroit permit condition for PCBs, i.e., 0.0005 mg/l for Aroclor 1260 and 0.001 mg/l for total PCBs. EPS must record results of the analysis imposed by Condition 7.b below.

e. (1) EPS may sample and analyze the caustic aqueous waste from the centrifuge operation (sample must be taken prior to any additional treatment). Batches exhibiting PCB levels below 3 ppb may be disposed of as non-PCB material, but disposal must comply with all local, state and Federal regulations.

(2) EPS must first demonstrate to EPA the capability to analyze the centrifuge waste with accuracy and precision, prior to commencing the disposal as specified in section 5.e.(1).

f. EPS must comply with the labeling and marking requirements for storage and shipping containers and storage tanks at §761.40 and §761.45 for all caustic waste from the centrifuge operation which contains PCB levels at 3 ppb or above. All storage and shipping containers, and storage, holding and process tanks containing the centrifuge waste at the EPS Wheeling, West Virginia facility and the CyanoKEM Detroit, Michigan facility must be marked and labeled according to the regulations cited above.

TABLE 1. PROCESS WASTE RESTRICTIONS

INITIAL FEEDSTOCK PCB CONCENTRATION	TYPE OF PROCESS WASTE STREAMS	DISPOSAL REQUIREMENT
1. MODEF OPERATIONS:		
A. 50 - 499 ppm	1) Fuller's Earth Filter	a. As a non-PCB material.
	2) Other	a. High efficiency boiler, 40 CFR 761.60, or b. PCB incinerator, 40 CFR 761.70, or c. Chemical landfill, 40 CFR 761.75, or d. Alternative method 40 CFR 761.60(e).

TABLE 1. PROCESS WASTE RESTRICTIONS (cont'd)

INITIAL FEEDSTOCK PCB CONCENTRATION	TYPE OF PROCESS WASTE STREAMS	DISPOSAL REQUIREMENT
	3) Aqueous Centrifuge Waste	a. Same as 1.A.2., or b. At CyanoKEM facility, [Condition 6d(1) & (2)], or c. As specified in Condition 6e)
B. 500 - 6,300 ppm	1) Fuller's Earth Filter	a. As a non-PCB material.
	2) Other	a. PCB incinerator, 40 CFR 761.70, or b. Alternative method, 40 CFR 761.60(e).
C. 6,301 - 14,500 ppm	1) Fuller's Earth Filters	a. PCB incinerator, 40 CFR 761.70, or b. Alternative method, 40 CFR 761.60(e).
	2) Other	a. PCB incinerator, 40 CFR 761.70, or b. Alternative method,40 CFR 761.60(e).
	3) Aqueous Centrifuge Waste	a. Same as 1.B.2., or b. At CyanoKEM facility, [Condition 6d(1) & (2)], or c. As specified in Condition 6e)
2. OTHER OILS OPERATIONS:		
A. 50 - 499 ppm	1) Fuller's Earth Filter	a. As a non-PCB material.
	2) Other	a. High efficiency boiler, 40 CFR 761.60, or b. PCB incinerator, 40 CFR 761.70, or c. Chemical landfill, 40 CFR 761.75, or d. Alternative method, 40 CFR 761.60(e).
	3) Aqueous Centrifuge Waste	a. Same as 1.A.2., or b. At CyanoKEM facility, [Condition 6.d(1) & (2)], or c. As specified in Condition 6e)
B. 500 - 2,600 ppm	1) Fuller's Earth Filters	a. As a non-PCB material if analysis shows PCB concentration to be less than two ppm per resolvable gas chromatographic peak.
	2) Other	a. PCB incinerator, 40 CFR 761.70, or b. Alternative method, 40 CFR 761.60(e).
	3) Aqueous Centrifuge Waste	a. Same as 1.B.2., or b. At CyanoKEM facility, [Condition 6.d(1) & (2)], or c. As specified in Condition 6e)

7. Process Monitor/Recordkeeping

Provisions must be made to assure that the following information is suitably monitored and recorded for PCBs processed, such that materials harmful to health or the environment are not inadvertently released:

a. The following PCBX™ process information shall be recorded and maintained:

(1) quantity of feedstock fluid per run,

(2) concentration of PCBs in the feedstock fluid for each run,

(3) type of feedstock fluid (such as MODEF, hydraulic oil, heat, transfer oil) per job,

(4) feedrate of dechlorination reagent per run,

(5) concentration and quantity of PCBs in the treated fluid per run,

(6) quantity of PCB wastes generated per job,

(7) identification of the facility used to dispose of PCB wastes and method of disposal,

(8) temperature and pressure of reaction once during every half-hour interval per run,

(9) date, time, and duration of run,

(10) name and business address of the PCBX™ unit operator and supervisor,

(11) the name and address of each client whose MODEF or other oil was processed by the EPS PCBX™ Process,

(12) identification of the EPS PCBX™ Process unit performing each job,

(13) a copy of the gas chromatogram from the tests required by Condition numbers 2.b. and 3.

(14) quantity of dechlorination reagent used per job.

b. A summary of the total number of gallons of MODEF and other oils processed by the EPS PCBX™ Process during the previous calendar year.

c. The records in a. and b. above must be developed, compiled, and maintained as follows:

(1) The documents must be compiled within 60-days of the treatment date, except

for PCB wastes, which must be compiled according to the disposal timeframe of 40 CFR 761.65; must be kept at one centralized location; and must be made available for inspection by authorized representatives of EPA.

(2) The documents shall be maintained for at least 5 years after the treatment date.

(3) If EPS terminates business, these records or their copies must be submitted to the Director, National Program Chemicals Division of OPPT.

d. EPS must maintain, aboard the mobile unit, a record of the PCB disposal services performed by the unit during the previous 30 consecutive days. These records must be available for inspection by authorized representatives of EPA.

e. Any reports required by Conditions (8), (9 and (10)

8. PCB Releases

In the event EPS or an authorized field supervisor of the EPS mobile unit believes, or has reason to believe, that a release of PCBs has or might have occurred from the unit during processing, EPS must inform the appropriate EPA region by telephone within 4 business hours from the time of discovery. Cleanup begins immediately and must comply with the TSCA PCB Spill Cleanup Policy (52 FR 10688, April 2, 1987).

A written report describing the incident must be submitted to the appropriate EPA Regional Contact, the Regional Administrator, and the Director, National Program Chemicals Division of OPPT by the close of business on the regular business day following the incident. No PCBs may be processed in that facility until the release problem has been corrected to the satisfaction of the appropriate EPA region.

9. PCB Spills

Any spills of PCBs or other fluids shall be promptly controlled and cleaned up as provided in the EPS Spill Prevention Control and Countermeasure Plan and in accordance with the TSCA PCB Spill Cleanup Policy (52 FR 10688, April 2, 1987). In addition, a written report describing the spill, operations involved, cleanup actions, and changes in operation to prevent such spills in the future must be submitted to the appropriate EPA Regional Contact, Regional Administrator, and Director, NPCD of EPA OPPT within 5 business days.

PCB spills must be reported in accordance with the spill reporting requirements prescribed under Section 311 of the Clean Water Act for discharges to navigable waters and under the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund) for discharges to other media.

10. Safety and Health

EPS must take all necessary precautionary measures to ensure that operation of the EPS mobile unit(s) is in compliance with the applicable safety and health standards, as required by

Federal, state and local regulations and ordinances. Any lost-time injury occurring as a result of the EPS PCBX™ Process must be reported to the PCB Disposal Site Coordinator in the appropriate EPA region by the next regular business day.

Sunohio monitored the workplace air quality for PCBs during the first three operations during treatment of MODEF containing PCBs over 10,000 ppm. A summary report was submitted to the Chief, Fibers and Organics Branch for each operation. In addition, by November 1, 1991, Sunohio submitted worker exposure data complying with OSHA Permissible Exposure Limit for PCBs (1.0 mg/m^3 for Aroclor 1242 and 0.5 mg/m^3 for Aroclor 1254). Exposure limit for Aroclor 1260 shall be 0.5 mg/m^3. Such was collected during operations at the expected highest range of PCB concentrations treated from May 1, 1991 to October 1, 1991.

Sunohio demonstrated a combustible gas monitor and alarm system during the week of February 29, 1988. The combustible gas monitor and alarm system must be installed in all PCBX™ units and be in working order by January 1, 1989. To continue operations when the permanent gas monitor fails, EPS must follow an alternative gas monitoring procedure. An MSA-type portable gas monitor or equivalent may be used until the continuous monitor is repaired or replaced according to the following the procedure:

a. Gas level readings will be taken and recorded every half-hour minimum.

b. Gas samples must be taken at ceiling level.

c. At minimum, the ceiling fan must be operating and doors must be open.

d. During adverse weather requiring closing of doors, exhaust fans must be operating to obtain a one volume turnover rate or greater per one-half minute.

11. Facility Security

The EPS mobile unit shall be secured (such as a fence, alarm system, or barricades, as appropriate) at each site to restrict or control public access to the area.

12. Personnel Training

EPS shall be responsible for ensuring that personnel directly involved with the handling or disposal of PCB contaminated fluid using the EPS PCBX™ Process are demonstrably familiar with the general requirements of this approval. At a minimum, this must include:

a. the type of fluid which may be treated using the EPS PCB Destruction Process, and the upper limit of PCB contamination which may be treated;

b. basic recordkeeping requirements under this approval and the location of records;

c. notification requirements;

d. waste disposal requirements for process and by-product wastes generated during the operation of the EPS PCBX™ Process; and,

e. reporting requirements.

In this regard, EPS must maintain on-site during the operations of its mobile unit(s) a copy of this approval, the spill prevention and cleanup plan, and sampling and analytical procedures used to determine PCB concentrations in untreated and treated materials.

13. Agency Approvals or Permits

Prior to commencing operations, EPS must obtain any necessary Federal, state or local permits or approvals. During the course of operations, EPS shall comply with all conditions and requirements of such permits or approvals. Copies of such permits shall be forwarded to the Chief, Fibers and Organics Branch (7404T) EPA Headquarters.

14. Equipment Transport

Untreated PCB fluids may not be transported off-site on the EPS mobile unit. PCB-contaminated equipment (i.e., reactors, tanks, etc.) on the mobile unit may be transported off-site, in accordance with 40 CFR Section 761.40 and the U.S. Department of Transportation (US DOT) requirements of Title 49 Part 172. Such requirements include placarding the mobile facility and labeling all PCBs. EPS must comply with placarding vehicles requirements unless:

a. the feed hoses and pipes are decontaminated prior to transporting the PCBX™ unit from the site by rinsing them with clean solvent three times; or

b. the hoses connected to the transformers or tanks, i.e., the incoming and outgoing hoses, may be joined together, and the oil pumped through the reactor until all the oil in the hoses has been treated, as described in the April 5, 1984 "Process Demonstration Test Plan and Standard Operating Procedures," page A-37 and EPS letter dated September 8, 1987.

15. Financial Assurance

EPS shall incorporate financial assurance of closure and liability coverage provisions into its closure plan. These provisions must be equivalent to those specified in 40 CFR Part 264, issued under Subpart H of the Resource Conservation and Recovery Act (RCRA) and provide funds for:

a. proper closure of the mobile PCB disposal units and support operations; and

b. compensating others for bodily injury and property damage caused by accidents arising from operations of the mobile disposal units.

EPS has filed with the Director, National Program Chemicals Division documentation of compliance with these requirements. EPS must submit annual updates to the Director, National Program Chemicals Division of the financial assurance of closure and liability coverage provision described herein.

16. Ownership Transfer

EPS must notify EPA at least 30 days before transferring ownership of the EPS PCBX™ PCB Chemical Dechlorination Process. EPS must also submit to EPA, at least 30 days before such transfer, a notarized affidavit signed by the transferee which states that the transferee will abide by EPS's EPA approval. Within 30 days of receiving such notification and affidavit, EPA will issue an amended approval substituting the transferee's name for EPS's name or may require the transferee to apply for a new PCB disposal approval. In the latter case, the transferee must abide by EPS's approval until EPA issues the new approval to the transferee. Should EPS fail to provide EPA with the required written documentation of the transfer or to provide this documentation within the specified time frame, this approval shall be null and void. In the event of transfer of ownership, EPS shall continue to comply with the financial assurance requirements, until the new owner demonstrates to the Director, NPCD that he is complying with those requirements. Then the Director shall notify EPS in writing that they no longer need to comply with the financial assurance requirements.

17. Additional Unit

EPS must file a written pre-operation report with the Director, National Program Chemicals Division, within 30 days from the date of manufacture of each additional EPS mobile unit which is to be operated in the United States. This report shall contain the following information:

a. date of manufacture of the unit;

b. identification and/or serial number of the new EPS mobile unit;

c. certification by an independent, registered professional engineer that the EPS mobile unit is substantially identical to the original demonstrated unit in terms of engineering design, hardware, process capacity, quality and workmanship;

d. certification by the Chief Executive Officer of EPS, Inc. that the EPS mobile unit construction has been completed in such manner; and,

e. a list of all nonsubstantive changes made to the design and construction of the new EPS mobile unit which are not identical to the original EPS mobile unit.

18. Process/Equipment Modifications

No major modifications may be made to the EPS mobile unit(s) design, as described in the application and demonstration plan for this approval, without written authorization of the Director, National Program Chemicals Division.

19. Approval Severability

The conditions of this approval are severable, and if any provision of this approval or any application of any provision is held invalid, the remainder of this approval shall not be affected thereby.

20. Approval Expiration Date

This approval shall become effective upon signature and expire on February 5, 2008. For an approval renewal, EPA may require additional information and/or testing of the EPS PCBX™ Process. To continue the effectiveness of this approval pending EPA action on reissuance, EPS must submit a renewal request in writing to EPA at least 90 days, but not more than 180 days, prior to the expiration date of this approval.

APPROVAL

1. Approval to dispose of PCBs is hereby granted to EPS, Inc., Wheeling, West Virginia, subject to the conditions expressed herein and consistent with the materials and data included in the permit application filed by the company. EPA reserves the right to impose additional conditions when it has reason to believe that the continued operation of the EPS mobile unit presents an unreasonable risk to public health or the environment. Any such proposed additional conditions shall be preceded by reasonable advance notice to EPS and opportunity for EPS to comment on the proposed modifications.

   Any departure from the conditions of this approval or the terms expressed in the application must receive prior written authorization of the Director, National Program Chemicals Division of the Office of Toxic Substances. In this context, "application" shall be defined as all data and materials which have been received by EPA from EPS regarding the EPS PCBX™ Process.

2. This approval to dispose of PCBs does not relieve EPS of the responsibility to comply with all applicable Federal, state and local regulations. Violations of any applicable regulations may be subject to enforcement action, and may result in termination of this approval. This approval may be rescinded at any time for failure to comply with the terms and conditions herein, failure to disclosure all relevant facts, or for any other reasons which the Director, National Program Chemicals Division deems necessary to protect public health and the environment.

3. EPS shall be responsible for the actions of any authorized EPS PCBX™ Process employees when those actions are within the scope of operating or moving the equipment related to performance of the PCBX™ process, and EPS shall assume full responsibility for compliance with all applicable Federal, state and local regulations including, but not limited to, any advance or emergency notification and accident reporting requirements.

4. EPA reserves the right for its employees or agents to inspect EPS PCB disposal activities at any location or reasonable time.

_____
Date

_____
Maria J. Doa, Ph.D.
Director
National Program Chemicals Division

APPENDIX I
TO THE EPS PCBX™ APPROVAL TO DISPOSE OF POLYCHLORINATED BIPHENYLS

BACKGROUND

Section 6(e)(1)(A) of the Toxic Substances Control Act (TSCA) requires that EPA promulgate rules for the disposal of polychlorinated biphenyls (PCBs). The rules implementing section 6(e)(1)(A) were published in the Federal Register of May 31, 1979 (44 FR 31514) and recodified in the Federal Register of May 6, 1982 (47 FR 19527). Those rules require, among other things, that various types of PCBs and PCB Articles be disposed of in EPA-approved landfills (40 CFR 761.75), incinerators (40 CFR 761.70), high efficiency boilers (40 CFR 761.60), or by alternative methods (40 CFR 761.60(e)) that demonstrate a level of performance equivalent to EPA-approved incinerators or high efficiency boilers. In the May 31, 1979 Federal Register the EPA Administrator designated Regional Administrators as the approval authority for PCB disposal facilities.

On March 30, 1983, EPA issued a procedural rule amendment to the PCB rule (48 FR 13185). This procedural rule change transferred the review and approval authority of mobile and other PCB disposal facilities that are used in more than one region to the Office of Pesticides and Toxic Substances (OPTS). The purpose of the amendment is to eliminate duplication of effort in the regional offices and to unify the EPA's approach to PCB disposal. The amendment gives the Assistant Administrator for Pesticides and Toxic Substances authority to issue nationwide approvals (i.e., approvals which are effective in all ten EPA regions) to mobile and other PCB disposal facilities that are used in more than one EPA region.

SUNOHIO, Inc., submitted a formal application to EPA for nationwide approval to treat "liquid hydrocarbon products" (LHCP) containing PCBs on March 16, 1984. A demonstration plan was subsequently submitted on April 5, 1984. This plan was approved by the Assistant Administrator for Pesticides and Toxic Substances on August 2, 1984, and SUNOHIO commenced the trial demonstration at the SUNOHIO facility in Navarre, Ohio on August 13, 1984. Mineral oil dielectric fluid (MODEF) was selected for processing for purposes of the trial demonstration. EPA personnel witnessed the demonstration to verify SUNOHIO's on-site chemical analysis of the treated MODEF, and to obtain split samples for subsequent analysis and verification. SUNOHIO completed the demonstration on August 17, 1984.

On May 21, 1987, the EPA audited the demonstration for process modification of the SUNOHIO PCBX™ Mobile Unit for chemical dechlorination of MODEF. The demonstration to incorporate a reactor modification was successfully completed on May 21, 1987. SUNOHIO demonstrated the PCBX™ Process using Rig No. 4, incorporating the modified PCBX™ operation as described in SUNOHIO submissions to the Office of Toxic Substances in letters dated December 4, 1986 and May 12, 1987, and in documents entitled "City of Seattle, Lake Union Steam Plant Demonstration Test Report," February 2, 1987 and "PCBX™ Units Nos. 2 and 4 Equivalency,"

February 20, 1987.

SUNOHIO requested amendment of the TSCA permit to treat MODEF containing over 2,600 ppm PCBs by submitting a Demonstration Plan on February 22, 1988 to treat MODEF at a PCB level of about 10,000 ppm. SUNOHIO demonstrated the PCBX™ during the week of February 29, 1988 meeting the objectives found in Finding No. 5.
The demonstration was completed successfully with treated oil indicating destruction of PCBs below detectable levels.

EPA has approved a modification as described in SUNOHIO submissions to the Office of Toxic Substances in a letter dated May 12, 1987, however, limiting the modification to a maximum reactor capacity increase of 240 gallons. SUNOHIO successfully demonstrated the modified PCBX™ Process, using Rig No. 4, on May 21, 1987 at a Central Virginia Electric Cooperative substation location in Lovingston, Virginia. A second decanting tank was observed, during the demonstration of February 29, 1988, to function satisfactorily. The second decanting tank has been approved as an addition to the product separation unit.

NPCD has approved the use of a process additive to enhance the PCB dechlorination reaction. Although the process enhancement characteristics of the additive was not demonstrated, SUNOHIO's ability to analyze treated MODEF at low PCB concentration approaching 2 ppm was demonstrated during the week of May 13, 1991 at the Regional Wastewater Treatment Plant in the City of Hopewell, Virginia. Because the additive does not interfere with the analytical quality control of treated products, NPCD has approved the use of the additive in the PCBX™ operations

In May of 1990, SUNOHIO, Inc. became a wholly owned subsidiary of American Nukem Corporation, Mahwah, New Jersey.

APPENDIX II
TO THE EPS PCBX™ APPROVAL TO DISPOSE
OF POLYCHLORINATED BIPHENYLS

FINDINGS

1. The SUNOHIO nationwide PCB disposal permit granted on January 8, 1985, expired on December 31, 1987. As part of the renewal procedure, EPA decided to forego the formal PCB disposal approval procedure to demonstrate capabilities of the PCBX™ process because of EPA's scrutiny of the SUNOHIO PCBX™ process during the preceding eighteen months. EPA audited and inspected the PCBX™ operations on ten occasions. The results of the demonstration audits and inspections verified the efficacy of the SUNOHIO PCBX™ Process. The PCBX™ Process was determined to be equivalent to incineration and to pose no unreasonable risk to human health and the environment, and therefore not requiring formal confirmation of "no unreasonable risk" through the PCB disposal demonstration process.

2. SUNOHIO, Inc., Canton, Ohio, proposes to chemically destroy polychlorinated biphenyls (PCBs) in LHCP using one or more mobile units. In May of 1990, SUNOHIO Corporation became a wholly owned subsidiary of American Nukem Corporation, Mahwah, New Jersey. SUNOHIO is the sole operator of the chemical destruction process which is called the PCBX™ Process.

3. In the demonstration at Navarre, Ohio, MODEF containing PCBs was fed into operating rigs No. 5 and No. 6 and mixed with a reagent which removed the chlorine atoms from the biphenyls. Three separate runs were conducted for each rig, producing inorganic chloride and hydroxide, and polyphenylene as by-products. Treatment continued in the PCBX™ system until SUNOHIO, through its on-site analysis, confirmed that the concentration of PCBs in the MODEF had been reduced to the EPA-designated level of less than 2 parts per million (ppm) per resolvable gas chromatographic peak. The by-products were filtered from the MODEF, and the filtered fluid was returned to on-site storage tanks.

SUNOHIO recorded and retained written and graphic verification of the analyses and submitted verification to EPA. SUNOHIO provided analytical data and samples of treated MODEF to EPA throughout the course of the demonstration.

Pertinent test results were submitted to EPA in a test report dated October 15, 1984. These test results demonstrate that the SUNOHIO PCB Destruction Process is capable of destroying PCBs in MODEF, but that the Process results in a waste centrifuge sludge with PCB levels above the limit of detection (LOD) (greater than 2 ppm per resolvable gas chromatographic peak). On duplicate tests of MODEF at 2,600 ppm PCBs, SUNOHIO had no detectable PCBs in the treated oil and in the spent filter media, (a waste product), but the waste centrifuge sludge contained PCB levels above the limit of detection in all tests.

As observed in July 1986 during transformer processing operations in Jenkintown, Pennsylvania and in May 1987 in Lovingston, Virginia, on termination of operation at a site, there are cases where piping or hoses on the feed side of the PCBX™ units may contain MODEF which have levels above 2 ppm PCB. Oils having levels above 2 ppm PCB must be disposed of as if they contained PCBs at the level of the original MODEF.

4. May 1987 Demonstration: The demonstration was conducted at a Central Virginia Electric Cooperative substation located in Lovingston, Virginia. MODEF at a PCB level of 1,054 ppm PCBs was processed for demonstrating the modified PCBX™ operation for permit approval. The demonstration test report was submitted by SUNOHIO on June 3, 1987. Split samples of process fluids taken by EPA representatives were analyzed by the EPA laboratory. EPA laboratory results were compared with those of the SUNOHIO laboratory. The lab results were within acceptable levels.

5. February 1988 Demonstration: SUNOHIO, Inc. submitted a Demonstration Plan on February 22, 1988 to treat MODEF containing over 2,600 ppm PCBs at a PCB level of about 10,000 ppm, with the following objectives:

a. To increase the permitted PCB feed level to above 10,000 ppm.

b. To demonstrate that the Fuller's earth filter media can be cleaned to a level below 2 ppm PCB per resolvable gas chromatographic peak.

c. To demonstrate the use of an additional decant tank in the centrifuge system (tertiary effluent tank).

d. To demonstrate the use of a combustible gas monitor and alarm system as required by Condition No.10 of SUNOHIO's EPA TSCA Approval issued 12-23-88.

SUNOHIO, Inc. demonstrated the PCBX™ Process during the week of February 29, 1988 with MODEF spiked to levels above 14,000 ppm PCBs. Results of the tests are summarized.

(1) Three tests runs were completed with MODEF feed with PCB concentrations 14,000 ppm (Run No. 1), 15,000 ppm (Run No. 2) and 6,300 ppm (Run No. 3). MODEF in all test runs were treated successfully below the PCB detection limit of 2 ppm per resolvable congener peaks.

(2) The Fullers earth filter media was cleaned in-process during the three runs. Extract solvent from samples of spent earth media showed Aroclor 1260 patterns in chromatograms when analyzed for PCBs. Therefore, samples of earth media must comply with both criteria for 2 ppm PCB per resolvable peak and total PCBs per recognizable Aroclor pattern to be classified TSCA nonregulated material. Earth media from the first and third runs indicated PCBs below the 2 ppm level. However, results from the EPA laboratory indicated filter media from the second test contained PCBs over 2 ppm. Results from the SUNOHIO, Inc. laboratory showed earth samples from all three runs to be below the 2 ppm PCB level. PCB concentrations of the MODEF feed from the three runs and analytical results from the laboratories are tabulated below:

Test No.	PCB Concentration, MODEF Feed, ppm	Earth Media, ppm PCBs EPA Lab	SUNOHIO Env. Lab
1	14,000	LT* 2 ppm	1.7 ppm avg.
2	15,000	3.27 ppm avg.	1.6 ppm avg.
3	6,300	LT 2 ppm	0.05 ppm avg.

*LT = less than

Analytical results indicate the presence of PCBs greater than 2 ppm in the earth filter media when treating MODEF with greater than 6,300 ppm PCBs. In addition, the SUNOHIO, Inc. Central Laboratory failed to quantitate PCBs in the filter media sample from Run 2, in contrast to the EPA laboratory results which indicated a major peak in the chromatogram in the region of the Aroclor 1260 pattern.

(3) The decant tank added to the PCBX™ unit was observed to function satisfactorily.

(4) Specifications for seven different combustible gas monitoring and alarm systems were submitted to USEPA on September 30, 1987. SUNOHIO, Inc. selected one of the systems and satisfactorily demonstrated the unit for the Warning Alarm set at 20% of the LEL (lower explosive level) and the High Alarm set at 50% of LEL.

(5) Worker exposure to PCB vapors in the workplace was a concern during the demonstration. SUNOHIO, Inc. has collected data to show that workplace air quality complies with the OSHA permissible exposure level (PEL) for PCBs of 1 mg/m^3. However, the data was accumulated under the TSCA approval which limited the feedstock concentration to 2,600 ppm. When processing feed of greater than 10,000 ppm, the frequency of replacement for filter elements from filter units is significantly higher. Because the housing must be disassembled for filter element replacement, oil vapors potentially containing PCBs are discharged more frequently into the workplace environment.

(6) Because of concern for worker exposure to PCBs, SUNOHIO it is necessary for SUNOHIO to collect worker exposure data.

May 1991 Demonstration: SUNOHIO requested in a letter dated April 1, 1991 to allow the use of an additive in the PCBX™ process. The company demonstrated the use of the additive during the week of May 13, 1991 at the Regional Wastewater Treatment Plant in the City of Hopewell, Virginia. SUNOHIO claims that the additive promotes the dechlorination process when the reaction is inhibited by competing materials. Because SUNOHIO could not locate MODEF with reaction inhibiting characteristic for the demonstration, EPA believes that SUNOHIO did not demonstrate the reaction enhancement properties of the additive. EPA believes a potential exists for by-products to be formed which may interfere with chemical analysis of PCBs or which may mask the presence of PCBs at detectable concentrations. No problems with analysis surfaced during the demonstration and EPA split samples confirmed SUNOHIO's analysis. All treated MODEF contained levels less than 2 ppm PCBs.

The SUNOHIO demonstration at Hopewell, Virginia was conducted as described in the SUNOHIO Memorandum dated May 2, 1991. Three transformers were treated ranging in concentrations from about 1500 ppm PCBs to 270 ppm PCBs.

6. The EPS PCBX™ Process is a totally enclosed process that is capable of treating PCB-contaminated MODEF and other oils on-site through the use of mobile units. The totally enclosed process, which is designed with specific features to prevent and control spills on site, minimizes the potential for exposure to workers and the general population (the exact description of the equipment to be used is on file at EPA Headquarters). In addition, the on-site treatment capability of the EPS mobile unit virtually eliminates the potential risk of a spill PCB materials during transportation.

Transportation costs contribute significantly to the total cost of disposal. Since the on-site treatment capability of the EPS mobile unit will eliminate or reduce transportation of waste, the total cost of disposal may be reduced. Small generators of PCB waste, in particular, could benefit from the reduced cost of disposal.

7. The EPS PCBX™ Process, as designed and operated, should not emit harmful materials into the environment. Solid wastes are produced in the form of spent filter media and sludge. These solid wastes contain polyphenylene substances, inorganic chlorides and hydroxides, water, and a small amount of treated MODEF. This composition, as determined in previous testing for waste material from the treatment of influent oil with a PCB concentration less than 500 ppm, does not present an unreasonable risk of injury to human health or the environment.

It is necessary for EPS to protect life and property from the hazards of combustible gases formed during the PCBX™ operations.

8. In the event of a malfunction during treatment, the EPS mobile unit is designed to allow PCB-containing fluid to be returned to the original transformer or tank. This fluid can then be treated again.

9. EPS has developed and filed with EPA a closure plan for terminating EPS mobile units. This plan includes the decontamination and disposal of PCB-contaminated equipment or process materials, and testing of the equipment or process materials before it is removed from service to assure that no PCBs are present.

10. It is necessary for EPS to provide EPA with a description of its training program for EPS process operators and technicians. This program is necessary to help ensure that operation of the EPS mobile units is in compliance with applicable safety and health standards. A training program should encompass:

a. safety, recordkeeping, and sampling and analysis;

b. operational procedures for using, inspecting, repairing and replacing EPS mobile facility equipment, including the monitoring and control system; and,

c. spill prevention, cleanup, and emergency response procedures.

11. In 1979, EPA estimated that there were approximately 750 million pounds of PCB material in use in the United States (U.S.) and an additional 20 million pounds in storage awaiting safe disposal. This backlog of PCB waste awaiting disposal has increased substantially due to several PCB

regulations. The 40 CFR 761.65(a) storage for disposal requirements limit the storage of all PCB material stored for disposal to one year. This one-year deadline became effective on January 1, 1983. In addition, the use conditions under 40 CFR 761.30 require that transformers and large capacitors near food or feed in unrestricted areas be removed from service by 1985 and 1988, respectively.

High temperature incineration is a proven destruction method for liquid and nonliquid PCBs and is particularly effective in destroying high concentration PCB waste. However, only six incinerators have been approved for commercial destruction of PCBs in the U.S. (only two of these are mobile facilities). The availability of the EPS mobile unit(s) would provide additional PCB destruction capacity for low concentration PCB waste (less than 500 ppm) and relieve the strain on incineration capacity for destruction of PCB waste between 500 and 14,500 ppm.

12. The EPS PCBX™ Process has a level of performance equivalent to that of the required thermal destruction methods (incinerators and high efficiency boilers). In the preamble to the PCB Ban Rule, EPA expressed the expectation that approved incinerators (40 CFR 761.70) would achieve a destruction and removal efficiency of 99.9999% and that high efficiency boilers (40 CFR 761.60), which may be used to destroy PCBs in concentrations up to 500 ppm, would achieve a DRE of 99.9% or greater. While those percentages provide general guidance to determine the approximate destruction efficiency goals for alternate PCB disposal methods under 40 CFR 761.60(e), other factors may be considered in the determination of equivalency.

For example, the mathematically calculated PCB destruction efficiency of the EPS PCBX™ Process may be less than that achieved by an EPA-approved incinerator or high efficiency boiler, because the practical limit of detection of PCBs in oils is 2 ppm. However, this is offset by the fact that there are no detectable PCBs in the treated fluid at a detection limit of 2 ppm per resolvable gas chromatographic peak, no detectable PCB emissions, no worker exposure to PCBs, reduced risks associated with the virtual elimination of PCB storage and transportation. Additionally, waste materials which have not been demonstrated to contain no detectable PCBs must be disposed of as if they contained PCBs at the concentration measured in the original influent oil.

13. MODEF has properties similar to other oils but not similar to all LHCPs.

14. Pursuant to 40 CFR 761.60(e) and the aforementioned findings, EPA finds that the EPS PCBX™ Process (when operated in accordance with the approved permit application and under the conditions described below) is equivalent in performance to an EPA-approved incinerator or high efficiency boiler for treatment of MODEF and other oils and that it does not pose an unreasonable risk of injury to human health or the environment.

15. On September 28, 1990, SUNOHIO requested EPA to amend several permit conditions. EPA denied SUNOHIO's request to reduce the advance notification from 30 to 15 days, to revise the requirements to update the recorded message from twice per day to once per day; and to eliminate the requirement to report lost-time injuries to the regional EPA contact and administrator. The

denial was based on EPA's need to receive information in a timely manner for the purpose of scheduling and other administrative objectives.

EPA approved SUNOHIO's request to have the definition of mobile operation expanded, not from 90 days to one year as requested, but from 90 days to 180 days. EPA believes that extending the definition of mobile operations from 90 to 180 days, while providing for inputs from local

agencies and the public, gives ample opportunity for disclosure of any factors affecting human health and the environment. SUNOHIO must notify local authorities and the public of intent to operate for periods longer than 90 days at a single site. Site specific information will be necessary only to the extent required to satisfy the public participation process.

EPA denied SUNOHIO's request to have the aqueous phase of the byproduct stream be identified as non-PCB. However, EPA approved the transport of the aqueous phase to a specified RCRA[1] POTW - Publicly Owned Treatment Works-approved treatment facility. The facility also operates under a pretreatment standard pursuant to the Clean Water Act. OPPT will allow SUNOHIO to dispose of the aqueous stream at the CyanoKEM, Incorporated facility in a neutralization process and discharged into a NPDES[1]-permitted POTW[1] system. OPPT believes that authorizing this specific method of disposal is advantageous because:

- neutralizing RCRA waste with the aqueous byproduct reduces the total waste stream to be disposed of by incineration thereby decreasing the pressure on already strained incinerator capacity;

- neutralizing RCRA waste with the aqueous byproduct reduces consumption of raw material and decreases the total waste stream by the combined SUNOHIO and CyanoKEM processes;

- by restricting the byproduct PCB level to that which the CyanoKEM facility can accept (0.1 ppm PCB) to comply with the discharge limit of 0.0005 ppm Aroclor 1260 and 0.001 ppm total PCBs imposed by the Clean Water Act, the final disposition of the byproduct is ultimately controlled for disposal and therefore imposes no unreasonable risk to human health and the environment.

Since the sampling and analysis requirement of the NPDES permit does not include PCBs, OPPT will require SUNOHIO to monitor the discharge for compliance with the PCB limits.

EPA approves a change in Condition 10 to allow for an MSA- type monitor or "equivalent" for monitoring combustible gas. In addition, EPA extends the permit term to five-years. OPPT grants this request considering EPA's limited resources. The extension becomes effective upon permit re-issuance.

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1 RCRA - Resource Conservation and Recovery Act
NPDES - National Pollutant Discharge Elimination System

APPENDIX III A

TO THE EPS PCBX™ APPROVAL TO DISPOSE OF POLYCHLORINATED BIPHENYLS

****

SAMPLE EPS PCBX™ PROCESS 30-DAY ADVANCE NOTIFICATION FORM

Client Name:
Client Address:

EPS Contact:
Phone:

Contact:
Phone:

Type of PCB Disposal Activity:

Amount and Type of PCB Material:

PCB Concentration Range:

Scheduled Time(s) and Date(s):

Contacts and Phones:

EPA - Wash., D.C. EPA Region State Agency Local

Hiroshi Dodohara
1200 Pennsylvania Ave., N.W.
Wash., D.C. 20460
202-566-0507

Site Locations:

****

ENCLOSURE

APPENDIX III B

TO THE EPS PCBX™ APPROVAL TO DISPOSE OF POLYCHLORINATED BIPHENYLS

****

SAMPLE EPS PCBX™ PROCESS TWO WEEK ACTIVITY SCHEDULE FORM

Period Covered:

EPA Region	Most Probable Date	Operating Time(s)	Scheduled Date)s) &	No. of Sites	County(s) of Operation or Central Location & Contact Phone No.

Week No. 1:

Week No. 2:

****

ENCLOSURE

APPENDIX III C

TO THE EPS PCBX™ APPROVAL TO DISPOSE OF POLYCHLORINATED BIPHENYLS

****

SAMPLE THIRTY DAY NOTIFICATION FORM FOR CONDITION NO. 1

Company Name, Address, Phone Number, and Contact Person:

Person, Organizational Affiliation/Title, and Phone Number for:

EPA Regional Contact:

State Contact:

Local (Town/City/County) Contact:

Nature of the Disposal Activity:

Kind of PCB Disposal Process:

Kinds of Material Containing PCBs:

Numbers and Sizes of Pieces of Equipment Containing PCBs:

Quantity of Solids and/or Volume of Liquid(s) Containing PCBs:

Concentration(s) of PCBs in the Material Treated:

Location

Street Address or Other Identifier for All Sites:

Telephone Contact and Address for Site Manager:

Time of Processing

Date(s):

Time(s):

****

APPENDIX IV

Procedures for Sampling Fullers Earth

A representative sample of fullers earth is to be taken as follows. The representative sample shall consist of a composite of no fewer than ten parts. Each part of the composite is to be placed together in a single container and the composite thoroughly mixed. A sample from the composite is then to be taken for chemical analysis and the results of the analysis is to represent all of the population from which the parts of the composite were taken.

The populations to be represented by the composite sample may be any number of containers, such as 55 gallon drums or large bulk containers, or covered bins. Samples are to be collected from no fewer than ten percent of the containers of fullers earth in a population. If ten percent of the total number of containers in the populations is fewer than ten containers, then the composite will be aggregated from at least ten different subsamples. If there are more than ten containers, the containers where sample collection occurs is to be selected using statistical random sampling techniques documented in EPS's records. If there are ten containers, one sample shall be collected from each container. If there are fewer than ten containers, then one sample is to be collected from each container and the remainder of the samples are to be collected from containers selected according to statistical random selection techniques documented in EPS's records. Individual sampling collection locations and sample collection procedures within a container are described below.

A sample to be used in the composite shall represent the entire depth of the container from which it is taken. This means that grab samples scraped from the surface or taken from any particular judgmentally selected depth of the container are unacceptable. A one half inch to one inch interior diameter core sample, where the core is bored virtually through the fullers earth and collects all material from the complete depth of the container, is required. The collection location for all samples is accessed from the top of the opened container. The starting point for the core is on the visible surface of the fullers earth. The samples are to be located according to the following sequence.

a. The first sample is to be started from the top center of the container.

b. The second sample is to be started at any point midway between the first sample and the edge of the container.

c. The third sample is to be started at a location on a line through the location of the first and second samples at a location midway between the first sample and the container edge on the opposite side of the container from the second sample.

d. The fourth sample is to be started on a line perpendicular to the line formed by the first three samples and midway between the first sample and the edge of the container.

e. The fifth sample is to be started at the midpoint between the first sample and the point of the container edge on the opposite side of the container from the fourth sample.

f. The sixth sample is to be started midway between the first sample and the edge of the container on a line equidistant between the second and fourth samples on the side of the container closest to the second and fourth samples.

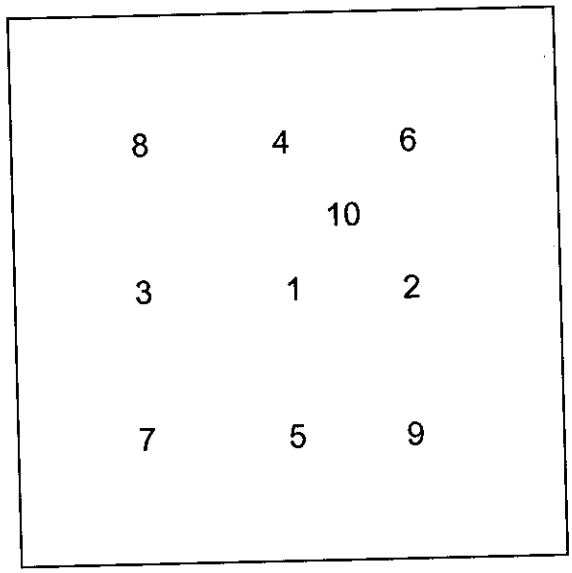
g. The seventh sample is to be started midway between the first sample and the edge of the container on a line equidistant between the third and fifth samples on the side of the container closest to the third and fifth samples.

h. The eighth sample is to be started midway between the first sample and the edge of the container on a line equidistant between the third and fourth samples on the side of the container closest to the third and fourth samples.

i. The ninth sample is to be started midway between the first sample and the edge of the container on a line equidistant between the second and fifth samples on the side of the container closest to the second and fifth samples.

j. The tenth sample may be started anywhere on the top surface of the container, at a location not yet sampled, and inside of a figure formed by drawing a line through the second through ninth sample locations.

According to the above procedures for selecting container to be sampled, all ten locations would only be necessary only if there were only one container in the population. An example of the locations of the ten sampling sites viewed from the top of a rectangular bulk container appears below.



ENVIRONMENTAL PROTECTION SERVICES

August 5, 2005

Mr. Hiroshi A. Dodohara- 7404T
USEPA Headquarters
Ariel Rios Building
1200 Pennsylvania Avenue, N. W.
Washington, DC 20460

Dear Mr. Dodohara,

Please accept this letter as a request for the renewal of the United States Environmental Protection Agency (USEPA) Approval to Dispose of Polychlorinated Biphenyls (PCBs) issued to Environmental Protection Services, Inc. (EPS) on February 5, 2001, which shall expire on February 5, 2006.

If you have any questions or need additional information please call me at (304) 232-1590 Ext. 23. Thank you.

Sincerely,

Guy D. Donzella, M.S.
Environmental and Safety Manager,
Environmental Protection Services, Inc.

4 INDUSTRIAL PARK DRIVE, WHEELING, WV 26003-0091
PHONE (304) 232-1590 FAX (304) 232-1599
WWW.EPSONLINE.COM

ROUTING SLIP

#	NAME	ACTION	INITIAL	DATE
1	Hiroshi Dodohara	Originator	HD	5-18-06
2	Sara McGurk	Concur	SM	5/19/06
3	Shiela Canavan	Concur		
4	Brian Symmes	Concur		
5	Maria Doa	Sign	MD	
6	Pat Robinson	Log	PR	5/22/06
7				
8				
9				

Nature of Item Being Routed

PCB Disposal Permit for EPS, to renew the permit so that NPCD may monitor their mobile PCCB Disposal activities for the next five years.

FROM:	DATE	TELE #	ROOM #
H. Dodohara	5/15/06	566-0507	EPA East 4353QQ

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAY 22 2006

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Mr. Keith R. Reed, President
Environmental Protection Services, Inc.
4 Industrial Park Drive
P.O. Box 710
Wheeling, West Virginia 26003-0091

Dear Mr. Reed:

By this letter, the National Program Chemicals Division (NPCD) of the U.S. Environmental Protection Agency (EPA) renews the Toxic Substance Control Act (TSCA) PCB Disposal Approval issued to the Environmental Protection Service, Inc. (EPS) to operate two PCBX™ mobile units. This Approval authorizes EPS to destroy PCBs using chemical dechlorination technology. This nationwide PCB Disposal Approval becomes effective upon signature, expiring on February 5, 2011.

Mr. Guy Donzella, EPS Environmental and Safety Manager, requested by letter dated August 5, 2005, to renew the EPS PCB Disposal Approval. Subsequently, EPS conducted a PCB Disposal demonstration during January 11 and 12, 2006. NPCD observed the operations and collected split samples of the waste feed and the treated material. Results of the analysis (Appendix) indicate that the EPS PCBX™ mobile units are capable of destroying PCBs to levels equivalent to incineration as required by PCB regulations.

EPA requires EPS to submit closure and financial assurance documents for review. During the PCB Disposal Demonstration, EPS presented an original copy of the trust agreement to EPA, drawn up to satisfy the requirement in Condition 15 of this approval. Additionally, operational schedules required by Condition (1)(b)(2) were examined for the year 2005. The schedules revealed that Rig 6 operated continuously at the EPS Wheeling, West Virginia work site from January 6, 2005 through April 20, 2005. Further examination of EPA files revealed that Rig 6 began to operate on a continuous basis at the EPS Wheeling, West Virginia plant beginning October 14, 2004 through the end of year and ending on April 24, 2005. This totals 193 consecutive days through which Rig 6 operated continuously at the EPS Wheeling, West Virginia plant.

Condition (1)(a) of this approval defines Mobile Operations as those operating at any one location for less than 180 consecutive days and Permanent Operations as those operating at any one location for 180 days or longer. Clearly, the 193 consecutive days of operating at the Wheeling site is contrary to the permit conditions for mobile operations. As a result, EPS shall review semiannually during the months of February and August of each year, and maintain a list

review semiannually during the months of February and August of each year, and maintain a list of companies serviced during the previous six months including the dates the services were provided. This list shall be maintained aboard the mobile units and in a centrally located area. This requirement has been incorporated as permit Condition 7(f).

EPA grants this approval based upon: (1) the ability of the EPS PCBX™ chemical dechlorination units to destroy PCBs in mineral oil dielectric fluids (MODEF) and other oils to a level below 2 ppm with no PCB emissions to air or releases to water and (2) upon the Agency's conclusion that the EPS PCBX™ units do not present an unreasonable risk of injury to health or the environment. (For alternative technologies to demonstrate equivalence to incineration, EPA finds that chemical dechlorination methods must maintain PCB residuals less than the practical limit of quantitation (LOQ). EPA has designated the practical LOQ of PCBs in oils to be 2 ppm).

Please note that this approval supersedes all previous EPA Headquarters and regional approvals or amendments for the EPS PCBX™ mobile dechlorination units and may be suspended, revoked, or further conditions may be added to it at any time EPA has reason to believe that operation of the EPS PCBX™ process presents an unreasonable risk of injury to health or the environment. Suspension or revocation of the approval or imposition of further conditions may also result from future EPA rulemaking with respect to PCBs. Moreover, violation of any condition included as part of this approval may subject EPS to enforcement action and/or suspension or revocation of the approval.

EPS may not blend PCB-laden MODEF or oils to reduce the PCB concentration to within the appropriate maximum permissible concentration for treatment. Please be advised that amendment of EPS's approval to treat higher concentrations of PCBs in a specified fluid may be considered if EPS demonstrates such capability to the satisfaction of EPA. Such demonstration may be accomplished either during commercial processing or through other controlled experimentation. Authorized EPA representatives may be present to witness the demonstration and obtain split samples for verification of analytical results.

It is the responsibility of you and your company, EPS, Inc., to comply with all applicable provisions of TSCA and the Federal PCB Regulations in processing the PCB-containing fluids. Violation of any of the applicable provisions of the conditions of approval may be cause for suspension or revocation of this approval. Furthermore, this approval does not relieve you of the responsibility to comply with all other applicable Federal, state and local regulations and ordinances for transportation, siting, operation, and maintenance of the EPS PCBX™ Mobile Chemical Dechlorination Units.

EPS shall maintain financial assurance for closure within the context of the existing closure plan throughout the effective dates of this approval. In addition, EPS must maintain liability insurance coverage throughout the effective dates of the approval. These provisions shall comply with the financial assurance requirements of 40 CFR 761.65 (e), (f), and (g).

EPA reserves the right to inspect the EPS mobile units to be used for the disposal of PCBs and the records which EPS is required to maintain under Federal PCB Regulations and this approval during operation and at other reasonable times.

Please contact Hiroshi A. Dodohara of my staff at (202) 566-0507 if you have any questions pertaining to this approval.

Sincerely,

Maria J. Doa Ph.D.
Director
National Program Chemicals Division

Enclosure

cc: Regional PCB Coordinators
EPA Regions I-X

Appendix

Analytical Results of Process Samples from the
PCB Disposal Approval Demonstration
at
Environmental Protection Service, Inc.
Wheeling, West Virginia

January 11 and 12, 2006

Sample ID	EPA Lab[A] Results (mg/kg)	EPS 3rd Party[B] Lab Results, ppm	EPS Field Lab Results, ppm Aroclor 1242[C]	EPS Field Lab Results, ppm DCMA[D]
#22321 initial	45.44	198.0	88	NA
#22321 final	0.89	< 1.0	0.1	0.1
#22322 initial	37.41	111.0	88	NA
#22322 final	1.66	< 1.0	0.3	0.3
#22323 initial	36.66	111.0	97	NA
#22323 intermediate	1.58	< 1.0	0.2	NA
#22323 final	≤ 0.1	< 1.0	0.2	0.2

[A] Modified Method 680 using GC/LRMS
[B] EPA Method 8082, reported as Aroclor 1242/1260
[C] EPA Method 8082, reported as Aroclor 1242
[D] EPA Method 8082, using DCMA standard

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF	)	APPROVAL TO DISPOSE
	)	
ENVIRONMENTAL SERVICES, INC.	)	OF POLYCHLORINATED
	)	
4 INDUSTRIAL PARK DRIVE	)	BIPHENYLS (PCBs)
	)	
WHEELING, WEST VIRGINIA	)	

AUTHORITY

This approval is issued pursuant to Section 6(e)(1) of the Toxic Substances Control Act of 1976 (TSCA), Public Law No. 94-469, and the Federal PCB Regulations, 40 CFR 761.60(e) (48 FR 13185, March 30, 1983). Background and Findings related to this approval are attached to this approval as Appendix I and II.

EFFECTIVE DATE

EPS is the sole operator of a process known as PCBX™ which chemically destroys PCBs and recycles liquid hydrocarbon products (LHCP) and mineral oil dielectric fluid (MODEF) using one or more mobile units. The Environmental Protection Agency (EPA) has carefully scrutinized EPS's PCBX™ operations. In addition, EPA has audited and observed numerous demonstrations of the PCBX™ process capabilities. Pursuant to 40 CFR 761.60(e), EPA finds that the EPS PCBX™ process (when operated in accordance with the conditions of this approval) is equivalent to an approved incinerator for treatment of MODEF and other oils and that it does not pose an unreasonable risk of injury to human health or the environment. This approval to operate nationwide shall become effective upon signature and terminate on February 5, 2011.

CONTENTS

DEFINITIONS

"Analytical data" means (a) a formal report from a chemical analysis laboratory or (b) appropriate chemical instrument print outs with appropriate controls, standards, and written instrumental operating parameters and conditions or (c) a statement that the "assumption" rule has been used. Technical judgment or experience is not considered analytical data.

"Appropriate local jurisdiction" means the incorporated city where the PCBX™ unit will be operated, or the county, if the PCBX™ unit will be operated outside the boundary of an incorporated city.

"Business hours" means 8:00 a.m. to 5:00 p.m. local time on weekdays except United States Government Holidays.

"Change in scale" means: (a) a doubling or more of the volume of Waste Feed notified to be treated at a site, if the increase is greater than 2000 gallons; or (b) for amounts of PCBs to be treated at a site greater than 5 pounds, an increase of the amount of PCBs to be treated by one order of magnitude or more.

"Day" means a calendar day, unless otherwise specified.

"Duplicate analysis" means two gas chromatographic analyses of the analyte prepared from one sample of MODEF or other material.

"Frequent site changes" means site changes at a rate of more than once per week.

"High PCB levels" means PCBs at a concentration greater than 6,300 parts per million (ppm).

"Job" means all PCBX™ disposal operations for a single customer within fifty road miles of a central location. A job may consist of PCBX™ disposal operations at several different sites for a single customer.

"Lifetime exposure risk" means the risk to an average adult individual who is exposed to a stated average concentration of a toxic material daily over the course of a 70 year lifetime.

"Lost time injury" or "Lost workday injury" means an injury related to the operation of the PCBX™ process which results in an employee not performing his/her normal assignments during the workday and/or any successive workday(s) following the day of the injury.

"Major modification" means any change to capacity, design, or efficiency of the PCBX™ unit or process, change of waste type, or any other changes significantly affecting overall performance or environmental impact.

"Minimal," with regard to an amount of PCB wastes means less than ten percent (10%) of total wastes treated.

"Mobile operations" means those operations where the PCBX™ mobile unit remains at a site for less than 180 consecutive days.

"Operations" means the process of treating PCBs, including set up and take down of the PCBX™ unit as well as actual treatment.

"OPPT" means the Office of Pollution Prevention and Toxics (7404T); (202) 566-0500 (PCB Office); Fibers and Organics Branch (7404T); (202) 566-0514; Facsimile (202) 566-0473.

"PCB" means polychlorinated biphenyls as defined in 40 CFR 761.3.

"PCB release" and "PCB spill" have the same meaning as "spill" as defined in EPA's PCB Spill Cleanup Policy in 40 CFR 761.123.

"Permanent operations" means those operations where the PCBX™ mobile unit remains at a site for 180 consecutive days or longer.

"Process Failure" means the inability of the PCBX™ unit to treat the feedstock for reasons other than contaminants in the MODEF or other oil (such as chlorinated solvents).

"Site" means the geographically contiguous property unit (such as a single manufacturing plant) at which the PCBX™ disposal operations are conducted. More than one transformer may be serviced at a single site.

"Site location" means a street address or a directional description which would allow a site to be found by an EPA inspector.

"Year" means 365 days.

CONDITIONS OF APPROVAL

1. Advance Notification

a. Overview.

EPS shall provide a nonconfidential, advance written notification of intent to operate to be received by the addressees (as described below) prior to the conduct of a permitted PCB disposal activity. The addressees shall include, at a minimum: EPA Headquarters' Office of Pollution Preventions and Toxics (Mail Code: 7404), the appropriate EPA regional office, the appropriate state agency, and the appropriate local jurisdiction.

The written advance notification requirements are divided into two categories based on the length of time EPS is at a single site. In general, categories are defined below and advance written notification requirements follow:

Mobile Operations

Those operations where the PCBX™ unit remains at a site for less than 180 consecutive days.

Permanent Operations

Those operations where the PCBX™ unit remains at a site for 180 consecutive days or longer.

The information which must be included in the advance written notification for each category is described in sections 1.b.- d. below. Advance notification requirements may be waived at Superfund sites according to § 121(e) of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and its implementing provisions at (40CFR 300.400(e).

b. Mobile Operations

(1) The following information must be included in a 30-day advance written notification to the addressees required to be notified under 1.a. The information is provided for public information purposes and for facilitating scheduling of government compliance monitoring and oversight of PCB disposal operations.

A. Company identification: EPS's and client contacts' name and telephone number.

B. Names, titles, addresses, and telephone numbers of the addressees required to be notified by 1.a.

C. The nature of the PCB disposal activity, including estimates of the amount and type (e.g., MODEF (mineral oil dielectric fluid), hydraulic oil, heat transfer oil) of PCB material to be treated and estimates of the concentration of PCBs in the material. The estimates shall be based on any one or combination of the following:

i. Analytical data or the results of analytical data provided by the customer; or

ii. EPS analytical data; or

iii. A statement that the customer has applied the "assumption rule" codified at 40 CFR 761.3 defining PCB-Contaminated Electrical Equipment.

D. The site location(s) and a telephone contact(s).

E. The time(s) and date(s) the PCB disposal activity is scheduled to take place.

An acceptable sample form for the 30-day advance written notification of intent to operate under mobile operations is included as Appendix III A.

(2) For PCBX™ operations under Mobile Operations where there are frequent site changes, the following additional notification is required:

A. Every week, EPS shall provide by telephone facsimile transmission, a two-week activity schedule to the OPPT and the EPA regional contact for each region where a PCB disposal activity will occur. This two-week activity schedule shall include for each job:

i. EPA region where the PCBX™ unit will be located;

ii. Most probable date that the PCBX™ unit will be performing PCB disposal activities;

iii. The time(s) and date(s) the PCB disposal activity is scheduled to take place;

iv. The expected number of sites; and

v. Either:

(a) the county or counties where PCB disposal activities will occur, or

(b) a notice that the PCBX™ unit will operate within a 50-mile radius of a specific location identified by a client telephone contact and client address.

An acceptable sample form for the two-week activity schedule under mobile operations is included as Appendix III B.

B. If a change in the most probable operating date or a change in scale for a job is made more than 2 days in advance of the most probable operating date, as stated in the most recent two-week activity schedule transmitted to EPA, EPS must send a telephone facsimile message noting the change to the appropriate EPA regional contact at least 2 days in advance of the most probable operating date, as stated in the two-week activity schedule

If the change in the most probable operating date or the change in scale is made 2 days or less in advance of the most probable operating date, as stated in the most recent two-week activity schedule transmitted to EPA, then the next scheduled telephone message update shall include the change.

C. EPS shall operate a recorded message system accessible 24 hours a day by EPA Regional Compliance Monitoring staff and OPPT staff. The recorded message must include the following information for each of EPS's PCBX™ operations in the United States:

i. site location (street address or directional description), client contact and phone number;

ii. scheduled completion date of current job; and

iii. company identification and scheduled start date of next job.

The message shall be updated daily between 7:30 a.m. and 8:30 a.m. EST/EDT and between 4:30 p.m. and 5:30 p.m. EST/EDT on weekdays (except for official U.S. Government holidays). If this recorded message is considered confidential business information, the message may be accessed by a code distributed to the EPA regional contacts and OPPT officials below.

Samples of acceptable forms for the required notifications under Mobile Operations are included in Appendix III. Other forms providing equivalent information may be used.

EPA CONTACTS

Name, Region	Telefax Number	Contact Number
Hiroshi Dodohara, EPA HQ.	(202) 566-0473	(202) 566-0507
Kim Tisa, Region I	(617) 918-1810	(617) 918-1527
Dan Kraft, Region II	(732) 321-6788	(732) 621-6669
Kelly Bunker, Region III	(215) 814-3114	(215) 814-2177
Craig Brown, Region IV	(312) 353-4788	(312) 353-2291
Lou Roberts, Region VI	(214) 665-7446	(214) 665-7579
Mazzie Talley, Region VII	(913) 551-7065	(913)-551-7518
Dan Bench, Region VIII	(303) 312-6044	(303) 312-6027
Max Weintraub, Region IX	(415) 947-3583	(415) 947-4163
Dan Duncan, Region X	(206) 553-8509	(206) 553-6693

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c. Permanent Operations

EPS must submit an advance written notification of permanent operations to the addressees at least 180 days in advance of the proposed Permanent Operations at a site. When an EPS PCBX™ unit is to be operated at a site for 180 consecutive days or more, the following information must be included in the notification and verified by EPA to conform to the informational requirements before the 180-day review period can begin. This advance written notification shall include a site evaluation and must include the following:

(1) All information required under items 1.b.(1) through (5) of Mobile Operations.

(2) Additional information presented below:

A. estimates of fugitive emissions of PCBs and any other hazardous materials;

B. amounts of waste generated during the entire operation and how that waste will be disposed;

C. plans of action in case of an emergency (including arrangements with local fire fighters, law enforcement personnel, and public health officials);

D. site-specific spill prevention control and countermeasures (SPCC) plan or containment installations and procedures; and,

E. site cleanup or restoration procedures and copies of any bonds which may be required by a state or local authority or by the client for the EPS operations.

(3) Details of the Site Evaluation

The following information must be submitted to OPPT and the appropriate EPA region as part of a notice of intent to operate a permitted mobile disposal unit (MDU) at a site for 180 consecutive days or longer. A public notice will not be published until a complete submission of these requirements has been received and approved by EPA.

There are a number of details which were submitted to EPA as part of the original PCB disposal permit application which must be updated or revised. All of these details are directly or indirectly related to the site of operations.

A. Project Personnel

A list of names and an organizational chart, brief job description, and responsibilities for all staff to be employed by the permittee at the proposed site. In addition, names, mailing addresses, and telephone numbers of primary EPS contacts with EPA, such as environmental affairs managers or government liaison contacts. Job qualifications and training, including the time, frequency and content, must be included.

B. Facility Description

The facility description shall include details of the disposal operations as they apply to the physical layout at the disposal site. To be included are (1) a site layout, to scale, of the location where operations will occur, and (2) the location of safety equipment, including but not limited to fire protection equipment, disposal equipment, supplies, waste handling equipment, waste loading and unloading points for transportation, flood proofing protection structures, security structures.

If the disposal operation will be at a previously developed site, in addition to the above requirements, other site modifications must be described and justified. Buildings for personnel, construction, maintenance and laboratories are exempted, unless there are discharges from operations of a mobile unit to the environment. Laboratory vents, sewer discharges from the laboratory or any area that may be associated with any contact with PCBs or any hazardous waste handled or generated as the result of PCB disposal must be discussed. Also, discussions of all storage facilities and their containment, process water systems, and other waste stream processing shall be included.

C. Disposal Activities to Be Conducted On-Site

A summary of the process operations which are described in detail in the original permit application shall be submitted, not to exceed one typewritten single spaced page. The permittee shall discuss activities and the amount of time involved in setting up and taking down disposal operations of the MDU at the site. Also, the permittee shall provide a discussion of: monthly and annual amounts and concentrations of waste and amount of PCBs to be processed; amounts and concentrations of PCBs and other hazardous materials stored on site; amounts and concentrations of contained, controlled, and fugitive emissions of toxic and non-toxic materials and how contained materials will be disposed of; proposed hours of operations; and expected duration of disposal activities at the site.

D. Safety Measures

The permittee must describe systems and/or structures for the detection and/or containment of leaks and hazardous wastes/by-products must be described, including process shutdowns resulting from automated monitoring of process emissions. A brief discussion of the automatic process controls, such as those which control extreme temperature and pressure fluctuations or departure from a permitted range, must be included. The location and action plans for all other emergency equipment shall be provided. Maintenance plans and schedules shall be provided. Safety and/or quality control/quality assurance inspection schedules, procedures, and recordkeeping must be detailed.

E. Emergency Preparedness and Contingency Plans

Emergency preparedness plans must be submitted to local authorities and approved by the EPA region. These plans shall include (1) exactly what actions take place for each level of problem, (2) the names of the persons responsible for handling expected problems, and (3) facility personnel names and appropriate phone numbers for 24-hour a day contact in the event of an emergency. Frequent problems and reasonable worst case problem scenarios such as: spills during processing, storage, and transportation; fires; floods; and equipment malfunction resulting in personal injury must be addressed. The information shall include (1) names and phone numbers of fire, police, medical emergency contacts, and (2) training sessions, documents, or other information provided to these services.

F. Transportation Routes and Volumes to be Transported to the Site

Transportation route information shall be detailed if such routes include any roads other than interstate highways. Information shall include residential or commercial areas associated with the roads to be used by hazardous waste transporters. Amounts, volumes, and locations of off-site PCB materials which are proposed to be transported to the PCB disposal site shall be listed. Information on the off-site and on-site storage of the off-site materials (including but not restricted to location, brief description of the release control/containment measures at the storage facility, and the estimated time to be stored at the location), shall also be listed.

G. Financial Assurance and Closure

The permittee shall summarize the financial assurance and closure provisions from the permit application including what situations are covered by insurance or other financial assurance and the amount of the assurance. Additional financial assurance and closure provisions for the time of extended PCB disposal operations at the site must be described in detail.

H. Exposure Assessment

An exposure and risk assessment shall be provided for activities included in normal operations and in the event of reasonable worst case accidents/problems. The exposures shall include those resulting from: storage, contained and fugitive emissions, handling and processing PCBs and other hazardous waste/process materials, operation of industrial equipment, and transportation related releases such as spills and collisions.

The information shall include an assessment of risk to the public from:

i. lifetime exposure to process operations;

ii. the transport of PCB waste to the site; and,

iii. on-site storage of PCB waste for disposal.

Situations which are not considered reasonable worst case situations are a double tornado, a terrorist attack, a nuclear strike, a plane crash into the facility, a meteor strike, and damage from an earthquake when there is not an active major geological fault near enough to expect major plant facility damage and release of PCB material.

(4) Public Participation

EPS shall provide public notice in the local newspaper initiating a 30-day comment period for public review of appropriate permit related documents (such as the sanitized non-confidential business information) permit application, any existing PCB disposal permit, any existing draft revised PCB disposal permit, and the site evaluation). The notice shall also advise that, if EPA determines that there is sufficient public interest, a public meeting will be held on a specified date and at a specified place and time not more than 45 days after the initial public notice.

After EPS has given the EPA regional office, the state agency, and the local jurisdiction a notice of intent to operate at a site for at least 180 consecutive days or more, and once OPPT and the local EPA region are satisfied that the site specific information submitted in this notice meets the requirements set forth in paragraphs (1), (2) and (3) above, a 180-day public notification and review process shall begin.

Based on the comments and questions received during the 30-day comment period, the EPA region will determine whether a public meeting is necessary. The public meeting shall be held: (a) to discuss comments made by the public during the 30-day comment period and notification for the public meeting; (b) to allow the public to make comments on the proposed operations and site; and (c) to allow the public to ask questions of EPA representatives on the proposed operations.

The public meeting will be hosted by the EPA region. OPPT and the EPA region may collectively determine what the schedule and the agenda for the public meeting shall be.

Not more than 150 days after the close of the public comment period, EPA shall make a decision on the authorization of Permanent Operations and on what additional conditions, if any, shall be imposed on the EPS Permanent Operations. The decision will be based on review of comments during the 30-day comment period and comments made during the public meeting. The decision could be that EPS may begin operations without additional permit conditions, or the decision could be made to require additional site-specific permit conditions which must be met before Permanent PCB Disposal Operations may begin at the site.

d. Requirements for Changing from Mobile Operation Mode to Permanent Operation Mode

Whenever a PCBX™ unit originally projected to be located at a single site for less than 180 consecutive days as Mobile Operations, at some point before 180 consecutive days into the operations EPS determines that the unit will be located at the site for 180 consecutive days or longer, EPS must proceed as follows:

(1) EPS must immediately provide written and telephone notification of this change to the EPA Headquarters' Office of Toxic Substances (OPPT) and the appropriate EPA regional office.

(2) Upon submission of this notification, EPS shall cease PCB disposal operations after the 180th consecutive day unless EPS provides OPPT and the EPA regional office a site evaluation, which includes all information prescribed in sections c.(1) - (3) above. The information must include updated material for the operation in question, including any modifications, to allow EPA to consider operations for the time period beyond the 180 consecutive days.

(3) Upon review and acceptance of the site evaluation, EPS must provide for public notice of the application for approval and a 30-day comment period along with an opportunity for a public meeting or hearing as described in section 1.c.4 above.

(4) When the comment period is concluded, OPPT and the regional office will determine, in its discretion, that operations may proceed beyond 180 consecutive days. EPA will notify EPS in writing of its approval to operate beyond 180 consecutive days.

2. Feedstock Quality and Restrictions

a. The EPS PCBX™ Process, as described in the design drawings and explanations on file in the Office of Toxic Substances and as demonstrated to EPA in February 1988, may be used by EPS to destroy PCBs in MODEF or other oils. The concentration of PCBs in MODEF shall not exceed 14,500 ppm. The concentration of PCBs in other oils shall not exceed 2,600 ppm.

b. Prior to treatment, the MODEF or other oil must be sampled and analyzed by gas chromatography for the concentration of PCBs in accordance with EPA-approved procedures for the PCBX™ field laboratory outlined in Sunohio's April 1984 application approved by EPA.

c. EPS may not blend or dilute PCB contaminated MODEF or other oil to reduce the PCB concentration of the feedstock material to meet the permitted treatment levels.

d. When EPS intends to treat oils other than MODEF, EPS must notify the Chief of the Fibers and Organics Branch, EPA Office of Pollution Prevention and Toxics in writing at least 30 days in advance of proposed operations. The notice to EPA-OPPT must include the type (e.g., hydraulic oil, heat transfer oil) and the quantity of oil to be treated and the location of the operation.

e. Whenever feedstock is handled through an intermediate tank(s), such as in treatment of bulk quantities of oils, the intermediate tank(s) must be clearly labeled as to purpose. As an example, feed tanks must be labeled as such, as distinguished from product tanks or in-process holding tanks. These tanks must be labeled, for instance, "FEED TANK," "PRODUCT TANK," and "IN-PROCESS HOLDING TANK." The requirement for labeling will clearly separate feed material from in-process material from finished product so that EPA inspectors and auditors may readily confirm, by sampling and analysis, that PCB feed materials are being properly disposed of.

f. EPS, Inc. is restricted to treating MODEF up to a concentration of 14,500 ppm PCBs. When treating MODEF at high PCB levels, EPS, Inc. must follow procedures different from those operations treating below 6,300 ppm PCBs. Special permit conditions relating to the operations and disposal of filter media are described in Condition No. 6 and 10

g. Should EPS successfully demonstrate to EPA through controlled experimentation that the EPS PCBX™ Process is capable of treating higher concentrations of PCBs in MODEF or other oils, the concentration levels set forth in this condition may be modified accordingly. Authorized EPA representatives may witness the demonstration and obtain split samples for verification of analytical results.

3. Process Control

A sample from each run of treated MODEF or other oil must be drawn and analyzed in duplicate (i.e., duplicate analysis) by gas chromatography for the concentration of PCBs at the site where the EPS PCBX™ Process is being used. If the concentration of PCBs in the treated sample is 2 ppm or greater per resolvable gas chromatographic peak (as calculated by comparison to an external standard homolog peak having the nearest retention time to each appropriate PCB peak to be quantified), the fluid must be reprocessed and analyzed until the fluid is reduced to less than 2 ppm PCBs per resolvable gas chromatographic peak (according to the aforementioned method and procedures) before the next run is begun. If the fluid fails to attain a level less than 2 ppm PCBs, the fluid must be disposed of as if it contained PCBs at the level in the original fluid.

When Aroclor patterns are detected in the chromatograms of treated MODEF or oil, then if the concentration of PCBs in the treated sample is 2 ppm or greater per resolvable gas chromatographic peak (as calculated by comparison to an external standard homolog peak having the nearest retention time to each appropriate PCB peak to be quantified) or if the Aroclor level (total PCBs concentration) is greater than 2 ppm, the fluid must be reprocessed and reanalyzed to show less than 2 ppm per resolvable gas chromatographic peak (according to the afore-mentioned method and procedures) and per Aroclor level before the next run is begun or the fluid must be disposed of as if it contained PCBs at the level in the original fluid.

At their discretion, EPS may introduce up to 2 gallons/minute of the additive as described in EPS's May 2, 1991 memorandum. The additive must be injected at the point in the process where the feedstock enters the PCBX™ mobile unit.

4. Requirements Prior to the First Commercial Task. (Not Applicable)

a. Fourteen (14) days prior to EPS's first PCB commercial job, EPS must notify EPA of the impending project. EPS must demonstrate the effectiveness of the PCBX™ process during the first commercial job.

b. Within sixty (60) days after signature of this approval, EPS must submit for EPA review and acceptance, a closure plan and financial assurance documents pursuant to Condition 16 of this approval..

5. Mobile Unit Decommissioning/Malfunction

If the quality control testing, as described in Condition 3, reveals that feedstock cannot be successfully processed in the PCBX™ process and EPS must resort to the condition "or the fluid must be disposed of as if it contained PCBs at the level of the original fluid," then EPS must notify the EPA Regional PCB Disposal Coordinator in the applicable EPA region prior to moving the PCBX™ unit off site. EPS shall determine if the unsuccessful processing is due to contaminants in the fluid or process failure. If the PCBX™ unit successfully processes all the fluid from the next three consecutive sites, the cause of the unsuccessful processing shall be assumed to be contaminants in the fluid and not process failure. If repeated incidence of process failure occurs, the affected unit must cease operation and EPS must notify the Chief, Fibers and Organics (202) 260-3933, as well as the Regional Coordinator during the next business day, and file a written report with each of them within 7 days. Repeated process failures are signs of process malfunction and must be reported so that EPA is able to maintain accounting of working commercial units. The affected unit shall not resume operation until the problem has been corrected to the satisfaction of the Chief, Fibers and Organic Branch. A unit which has been decommissioned must also be reported immediately to the Chief, Fibers and Organics Branch at EPA Headquarters and the Regional PCB Coordinator for the EPA region in which such unit is decommissioned.

6. Process Waste Restrictions

a. All wastes generated by the EPS PCBX™ process shall be treated or disposed of as shown by Table 1. Process Waste Restrictions.

b. Waste streams, except for Fuller's earth filters and aqueous centrifuge waste, must be disposed of as if the waste stream contained the PCB concentration of the original feedstock, as required by the "dilution rule" at 40 CFR 761.1(b).

c. Fuller's earth filters must be sampled and analyzed for PCB content as specified in Appendix IV. Such filters which upon analysis are found to contain 2 ppm or greater PCBs per resolvable gas chromatographic peak must either be reprocessed to less than 2 ppm per resolvable gas chromatographic peak or disposed of in accordance with the "dilution rule" at 40 CFR 761.1(b).

d. (1) EPS may dispose of the caustic aqueous waste from the centrifuge operations by (i) disposing of the caustic waste in an EPA-approved PCB disposal facility, or (ii) disposing the caustic waste at the CyanoKEM treatment facility for neutralizing acidic

wastes. CyanoKEM, Incorporated is located in Detroit, Michigan. CyanoKEM operates under a state-approved RCRA permit and under a pretreatment standard pursuant to the Clean Water Act. Effluent from the neutralization process is discharged into a NPDES-permitted POTW system.

(2) EPS must ensure that the sampling and analysis of the neutralization process complies with the Detroit Water and Sewerage Department Wastewater Discharge Permit - Type 3, Permit No. 005-034. The permit does not require analysis of samples for PCBs. Under this TSCA permit EPS must ensure that monitoring samples collected pursuant to the Detroit permit is analyzed for PCBs. The discharge must comply with the Detroit permit condition for PCBs, i.e., 0.0005 mg/l for Aroclor 1260 and 0.001 mg/l for total PCBs. EPS must record results of the analysis imposed by Condition 7.b below.

e. (1) EPS may sample and analyze the caustic aqueous waste from the centrifuge operation (sample must be taken prior to any additional treatment). Batches exhibiting PCB levels below 3 ppb may be disposed of as non-PCB material, but disposal must comply with all local, state and Federal regulations.

(2) EPS must first demonstrate to EPA the capability to analyze the centrifuge waste with accuracy and precision, prior to commencing the disposal as specified in section 5.e.(1).

f. EPS must comply with the labeling and marking requirements for storage and shipping containers and storage tanks at §761.40 and §761.45 for all caustic waste from the centrifuge operation which contains PCB levels at 3 ppb or above. All storage and shipping containers, and storage, holding and process tanks containing the centrifuge waste at the EPS Wheeling, West Virginia facility and the CyanoKEM Detroit, Michigan facility must be marked and labeled according to the regulations cited above.

TABLE 1. PROCESS WASTE RESTRICTIONS

INITIAL FEEDSTOCK PCB CONCENTRATION	TYPE OF PROCESS WASTE STREAMS	DISPOSAL REQUIREMENT
1. MODEF OPERATIONS:		
A. 50 - 499 ppm	1) Fuller's Earth Filter	a. As a non-PCB material.
	2) Other	a. High efficiency boiler, 40 CFR 761.60, or b. PCB incinerator, 40 CFR 761.70, or c. Chemical landfill, 40 CFR 761.75, or d. Alternative method 40 CFR 761.60(e).

TABLE 1. PROCESS WASTE RESTRICTIONS (cont'd)

INITIAL FEEDSTOCK PCB CONCENTRATION	TYPE OF PROCESS WASTE STREAMS	DISPOSAL REQUIREMENT
	3) Aqueous Centrifuge Waste	a. Same as 1.A.2., or b. At CyanoKEM facility, [Condition 6d(1) & (2)], or c. As specified in Condition 6e)
B. 500 - 6,300 ppm	1) Fuller's Earth Filter	a. As a non-PCB material.
	2) Other	a. PCB incinerator, 40 CFR 761.70, or b. Alternative method, 40 CFR 761.60(e).
C. 6,301 - 14,500 ppm	1) Fuller's Earth Filters	a. PCB incinerator, 40 CFR 761.70, or b. Alternative method, 40 CFR 761.60(e).
	2) Other	a. PCB incinerator, 40 CFR 761.70, or b. Alternative method,40 CFR 761.60(e).
	3) Aqueous Centrifuge Waste	a. Same as 1.B.2., or b. At CyanoKEM facility, [Condition 6d(1) & (2)], or c. As specified in Condition 6e)
2. OTHER OILS OPERATIONS:		
A. 50 - 499 ppm	1) Fuller's Earth Filter	a. As a non-PCB material.
	2) Other	a. High efficiency boiler, 40 CFR 761.60, or b. PCB incinerator, 40 CFR 761.70, or c. Chemical landfill, 40 CFR 761.75, or d. Alternative method, 40 CFR 761.60(e).
	3) Aqueous Centrifuge Waste	a. Same as 1.A.2., or b. At CyanoKEM facility, [Condition 6.d(1) & (2)], or c. As specified in Condition 6e)
B. 500 - 2,600 ppm	1) Fuller's Earth Filters	a. As a non-PCB material if analysis shows PCB concentration to be less than two ppm per resolvable gas chromatographic peak.
	2) Other	a. PCB incinerator, 40 CFR 761.70, or b. Alternative method, 40 CFR 761.60(e).
	3) Aqueous Centrifuge Waste	a. Same as 1.B.2., or b. At CyanoKEM facility, [Condition 6.d(1) & (2)], or c. As specified in Condition 6e)

7. Process Monitor/Recordkeeping

Provisions must be made to assure that the following information is suitably monitored and recorded for PCBs processed, such that materials harmful to health or the environment are not inadvertently released:

a. The following PCBX™ process information shall be recorded and maintained:

(1) quantity of feedstock fluid per run,

(2) concentration of PCBs in the feedstock fluid for each run,

(3) type of feedstock fluid (such as MODEF, hydraulic oil, heat, transfer oil) per job,

(4) feedrate of dechlorination reagent per run,

(5) concentration and quantity of PCBs in the treated fluid per run,

(6) quantity of PCB wastes generated per job,

(7) identification of the facility used to dispose of PCB wastes and method of disposal,

(8) temperature and pressure of reaction once during every half-hour interval per run,

(9) date, time, and duration of run,

(10) name and business address of the PCBX™ unit operator and supervisor,

(11) the name and address of each client whose MODEF or other oil was processed by the EPS PCBX™ Process,

(12) identification of the EPS PCBX™ Process unit performing each job,

(13) a copy of the gas chromatogram from the tests required by Condition numbers 2.b. and 3.

(14) quantity of dechlorination reagent used per job.

b. A summary of the total number of gallons of MODEF and other oils processed by the EPS PCBX™ Process during the previous calendar year.

c. The records in a. and b. above must be developed, compiled, and maintained as follows:

(1) The documents must be compiled within 60-days of the treatment date, except for PCB wastes, which must be compiled according to the disposal timeframe of 40 CFR 761.65; must be kept at one centralized location; and must be made available for inspection by authorized representatives of EPA.

(2) The documents shall be maintained for at least 5 years after the treatment date.

(3) If EPS terminates business, these records or their copies must be submitted to the Director, National Program Chemicals Division of OPPT.

d. EPS must maintain, aboard the mobile unit, a record of the PCB disposal services performed by the unit during the previous 30 consecutive days. These records must be available for inspection by authorized representatives of EPA.

e. Any reports required by Conditions (8), (9 and (10)

f. EPS shall review semiannually during the months of February and August of each year, and maintain a list of companies serviced during the previous six months including the dates the services were provided. This list shall be maintained aboard the mobile units and in a centrally located area.

8. PCB Releases

In the event EPS or an authorized field supervisor of the EPS mobile unit believes, or has reason to believe, that a release of PCBs has or might have occurred from the unit during processing, EPS must inform the appropriate EPA region by telephone within 4 business hours from the time of discovery. Cleanup begins immediately and must comply with the TSCA PCB Spill Cleanup Policy (52 FR 10688, April 2, 1987).

A written report describing the incident must be submitted to the appropriate EPA Regional Contact, the Regional Administrator, and the Director, National Program Chemicals Division of OPPT by the close of business on the regular business day following the incident. No PCBs may be processed in that facility until the release problem has been corrected to the satisfaction of the appropriate EPA region.

9. PCB Spills

Any spills of PCBs or other fluids shall be promptly controlled and cleaned up as provided in the EPS Spill Prevention Control and Countermeasure Plan and in accordance with the TSCA PCB Spill Cleanup Policy (52 FR 10688, April 2, 1987). In addition, a written report describing the spill, operations involved, cleanup actions, and changes in operation to prevent such spills in the future must be submitted to the appropriate EPA Regional Contact, Regional Administrator, and Director, NPCD of EPA OPPT within 5 business days.

PCB spills must be reported in accordance with the spill reporting requirements prescribed under Section 311 of the Clean Water Act for discharges to navigable waters and under the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund) for discharges to other media.

10. Safety and Health

EPS must take all necessary precautionary measures to ensure that operation of the EPS mobile unit(s) is in compliance with the applicable safety and health standards, as required by Federal, state and local regulations and ordinances. Any lost-time injury occurring as a result of the EPS PCBX™ Process must be reported to the PCB Disposal Site Coordinator in the appropriate EPA region by the next regular business day.

Sunohio monitored the workplace air quality for PCBs during the first three operations during treatment of MODEF containing PCBs over 10,000 ppm. A summary report was submitted to the Chief, Fibers and Organics Branch for each operation. In addition, by November 1, 1991, Sunohio submitted worker exposure data complying with OSHA Permissible Exposure Limit for PCBs (1.0 mg/m^3 for Aroclor 1242 and 0.5 mg/m^3 for Aroclor 1254). Exposure limit for Aroclor 1260 shall be 0.5 mg/m^3. Such was collected during operations at the expected highest range of PCB concentrations treated from May 1, 1991 to October 1, 1991.

Sunohio demonstrated a combustible gas monitor and alarm system during the week of February 29, 1988. The combustible gas monitor and alarm system must be installed in all PCBX™ units and be in working order by January 1, 1989. To continue operations when the permanent gas monitor fails, EPS must follow an alternative gas monitoring procedure. An MSA-type portable gas monitor or equivalent may be used until the continuous monitor is repaired or replaced according to the following the procedure:

a. Gas level readings will be taken and recorded every half-hour minimum.

b. Gas samples must be taken at ceiling level.

c. At minimum, the ceiling fan must be operating and doors must be open.

d. During adverse weather requiring closing of doors, exhaust fans must be operating to obtain a one volume turnover rate or greater per one-half minute.

11. Facility Security

The EPS mobile unit shall be secured (such as a fence, alarm system, or barricades, as appropriate) at each site to restrict or control public access to the area.

12. Personnel Training

EPS shall be responsible for ensuring that personnel directly involved with the handling or disposal of PCB contaminated fluid using the EPS PCBX™ Process are demonstrably familiar with the general requirements of this approval. At a minimum, this must include:

a. the type of fluid which may be treated using the EPS PCB Destruction Process, and the upper limit of PCB contamination which may be treated;

b. basic recordkeeping requirements under this approval and the location of records;

c. notification requirements;

d. waste disposal requirements for process and by-product wastes generated during the operation of the EPS PCBX™ Process; and,

e. reporting requirements.

In this regard, EPS must maintain on-site during the operations of its mobile unit(s) a copy of this approval, the spill prevention and cleanup plan, and sampling and analytical procedures used to determine PCB concentrations in untreated and treated materials.

13. Agency Approvals or Permits

Prior to commencing operations, EPS must obtain any necessary Federal, state or local permits or approvals. During the course of operations, EPS shall comply with all conditions and requirements of such permits or approvals. Copies of such permits shall be forwarded to the Chief, Fibers and Organics Branch (7404T) EPA Headquarters.

14. Equipment Transport

Untreated PCB fluids may not be transported off-site on the EPS mobile unit. PCB-contaminated equipment (i.e., reactors, tanks, etc.) on the mobile unit may be transported off-site, in accordance with 40 CFR Section 761.40 and the U.S. Department of Transportation (US DOT) requirements of Title 49 Part 172. Such requirements include placarding the mobile facility and labeling all PCBs. EPS must comply with placarding vehicles requirements unless:

a. the feed hoses and pipes are decontaminated prior to transporting the PCBX™ unit from the site by rinsing them with clean solvent three times; or

b. the hoses connected to the transformers or tanks, i.e., the incoming and outgoing hoses, may be joined together, and the oil pumped through the reactor until all the oil in the hoses has been treated, as described in the April 5, 1984 "Process Demonstration Test Plan and Standard Operating Procedures," page A-37 and EPS letter dated September 8, 1987.

15. Financial Assurance

EPS shall incorporate financial assurance of closure and liability coverage provisions into its closure plan. These provisions must be equivalent to those specified in 40 CFR Part 264, issued under Subpart H of the Resource Conservation and Recovery Act (RCRA) and provide funds for:

a. proper closure of the mobile PCB disposal units and support operations; and

b. compensating others for bodily injury and property damage caused by accidents arising from operations of the mobile disposal units.

EPS has filed with the Director, National Program Chemicals Division documentation of compliance with these requirements. EPS must submit annual updates to the Director, National Program Chemicals Division of the financial assurance of closure and liability coverage provision described herein.

16. Ownership Transfer

EPS must notify EPA at least 30 days before transferring ownership of the EPS PCBX™ PCB Chemical Dechlorination Process. EPS must also submit to EPA, at least 30 days before such transfer, a notarized affidavit signed by the transferee which states that the transferee will abide by EPS's EPA approval. Within 30 days of receiving such notification and affidavit, EPA will issue an amended approval substituting the transferee's name for EPS's name or may require the transferee to apply for a new PCB disposal approval. In the latter case, the transferee must abide by EPS's approval until EPA issues the new approval to the transferee. Should EPS fail to provide EPA with the required written documentation of the transfer or to provide this documentation within the specified time frame, this approval shall be null and void. In the event of transfer of ownership, EPS shall continue to comply with the financial assurance requirements, until the new owner demonstrates to the Director, NPCD that he is complying with those requirements. Then the Director shall notify EPS in writing that they no longer need to comply with the financial assurance requirements.

17. Additional Unit

EPS must file a written pre-operation report with the Director, National Program Chemicals Division, within 30 days from the date of manufacture of each additional EPS mobile unit which is to be operated in the United States. This report shall contain the following information:

a. date of manufacture of the unit;

b. identification and/or serial number of the new EPS mobile unit;

c. certification by an independent, registered professional engineer that the EPS mobile unit is substantially identical to the original demonstrated unit in terms of engineering design, hardware, process capacity, quality and workmanship;

d. certification by the Chief Executive Officer of EPS, Inc. that the EPS mobile unit construction has been completed in such manner; and,

e. a list of all nonsubstantive changes made to the design and construction of the new EPS mobile unit which are not identical to the original EPS mobile unit.

18. Process/Equipment Modifications

No major modifications may be made to the EPS mobile unit(s) design, as described in the application and demonstration plan for this approval, without written authorization of the Director, National Program Chemicals Division.

19. Approval Severability

The conditions of this approval are severable, and if any provision of this approval or any application of any provision is held invalid, the remainder of this approval shall not be affected thereby.

20. Approval Expiration Date

This approval shall become effective upon signature and expire on February 5, 2011. For an approval renewal, EPA may require additional information and/or testing of the EPS PCBX™ Process. To continue the effectiveness of this approval pending EPA action on reissuance, EPS must submit a renewal request in writing to EPA at least 90 days, but not more than 180 days, prior to the expiration date of this approval.

APPROVAL

1. Approval to dispose of PCBs is hereby granted to EPS, Inc., Wheeling, West Virginia, subject to the conditions expressed herein and consistent with the materials and data included in the permit application filed by the company. EPA reserves the right to impose additional conditions when it has reason to believe that the continued operation of the EPS mobile unit presents an unreasonable risk to public health or the environment. Any such proposed additional conditions shall be preceded by reasonable advance notice to EPS and opportunity for EPS to comment on the proposed modifications.

   Any departure from the conditions of this approval or the terms expressed in the application must receive prior written authorization of the Director, National Program Chemicals Division of the Office of Toxic Substances. In this context, "application" shall be defined as all data and materials which have been received by EPA from EPS regarding the EPS PCBX™ Process.

2. This approval to dispose of PCBs does not relieve EPS of the responsibility to comply with all applicable Federal, state and local regulations. Violations of any applicable regulations may be subject to enforcement action, and may result in termination of this approval. This approval may be rescinded at any time for failure to comply with the terms and conditions herein, failure to disclosure all relevant facts, or for any other reasons which the Director, National Program Chemicals Division deems necessary to protect public health and the environment.

3. EPS shall be responsible for the actions of any authorized EPS PCBX™ Process employees when those actions are within the scope of operating or moving the equipment related to performance of the PCBX™ process, and EPS shall assume full responsibility for compliance with all applicable Federal, state and local regulations including, but not limited to, any advance or emergency notification and accident reporting requirements.

4. EPA reserves the right for its employees or agents to inspect EPS PCB disposal activities at any location or reasonable time.

5/22/06
Date

Maria J. Doa, Ph.D.
Director
National Program Chemicals Division

APPENDIX I
TO THE EPS PCBX™ APPROVAL TO DISPOSE OF POLYCHLORINATED BIPHENYLS

BACKGROUND

Section 6(e)(1)(A) of the Toxic Substances Control Act (TSCA) requires that EPA promulgate rules for the disposal of polychlorinated biphenyls (PCBs). The rules implementing section 6(e)(1)(A) were published in the Federal Register of May 31, 1979 (44 FR 31514) and recodified in the Federal Register of May 6, 1982 (47 FR 19527). Those rules require, among other things, that various types of PCBs and PCB Articles be disposed of in EPA-approved landfills (40 CFR 761.75), incinerators (40 CFR 761.70), high efficiency boilers (40 CFR 761.60), or by alternative methods (40 CFR 761.60(e)) that demonstrate a level of performance equivalent to EPA-approved incinerators or high efficiency boilers. In the May 31, 1979 Federal Register the EPA Administrator designated Regional Administrators as the approval authority for PCB disposal facilities.

On March 30, 1983, EPA issued a procedural rule amendment to the PCB rule (48 FR 13185). This procedural rule change transferred the review and approval authority of mobile and other PCB disposal facilities that are used in more than one region to the Office of Pesticides and Toxic Substances (OPTS). The purpose of the amendment is to eliminate duplication of effort in the regional offices and to unify the EPA's approach to PCB disposal. The amendment gives the Assistant Administrator for Pesticides and Toxic Substances authority to issue nationwide approvals (i.e., approvals which are effective in all ten EPA regions) to mobile and other PCB disposal facilities that are used in more than one EPA region.

SUNOHIO, Inc., submitted a formal application to EPA for nationwide approval to treat "liquid hydrocarbon products" (LHCP) containing PCBs on March 16, 1984. A demonstration plan was subsequently submitted on April 5, 1984. This plan was approved by the Assistant Administrator for Pesticides and Toxic Substances on August 2, 1984, and SUNOHIO commenced the trial demonstration at the SUNOHIO facility in Navarre, Ohio on August 13, 1984. Mineral oil dielectric fluid (MODEF) was selected for processing for purposes of the trial demonstration. EPA personnel witnessed the demonstration to verify SUNOHIO's on-site chemical analysis of the treated MODEF, and to obtain split samples for subsequent analysis and verification. SUNOHIO completed the demonstration on August 17, 1984.

On May 21, 1987, the EPA audited the demonstration for process modification of the SUNOHIO PCBX™ Mobile Unit for chemical dechlorination of MODEF. The demonstration to incorporate a reactor modification was successfully completed on May 21, 1987. SUNOHIO demonstrated the PCBX™ Process using Rig No. 4, incorporating the modified PCBX™ operation as described in SUNOHIO submissions to the Office of Toxic Substances in letters dated December 4, 1986 and May 12, 1987, and in documents entitled "City of Seattle, Lake Union Steam Plant Demonstration Test Report," February 2, 1987 and "PCBX™ Units Nos. 2 and 4 Equivalency,"

February 20, 1987.

SUNOHIO requested amendment of the TSCA permit to treat MODEF containing over 2,600 ppm PCBs by submitting a Demonstration Plan on February 22, 1988 to treat MODEF at a PCB level of about 10,000 ppm. SUNOHIO demonstrated the PCBX™ during the week of February 29, 1988 meeting the objectives found in Finding No. 5.
The demonstration was completed successfully with treated oil indicating destruction of PCBs below detectable levels.

EPA has approved a modification as described in SUNOHIO submissions to the Office of Toxic Substances in a letter dated May 12, 1987, however, limiting the modification to a maximum reactor capacity increase of 240 gallons. SUNOHIO successfully demonstrated the modified PCBX™ Process, using Rig No. 4, on May 21, 1987 at a Central Virginia Electric Cooperative substation location in Lovingston, Virginia. A second decanting tank was observed, during the demonstration of February 29, 1988, to function satisfactorily. The second decanting tank has been approved as an addition to the product separation unit.

NPCD has approved the use of a process additive to enhance the PCB dechlorination reaction. Although the process enhancement characteristics of the additive was not demonstrated, SUNOHIO's ability to analyze treated MODEF at low PCB concentration approaching 2 ppm was demonstrated during the week of May 13, 1991 at the Regional Wastewater Treatment Plant in the City of Hopewell, Virginia. Because the additive does not interfere with the analytical quality control of treated products, NPCD has approved the use of the additive in the PCBX™ operations

In May of 1990, SUNOHIO, Inc. became a wholly owned subsidiary of American Nukem Corporation, Mahwah, New Jersey.

APPENDIX II
TO THE EPS PCBX™ APPROVAL TO DISPOSE
OF POLYCHLORINATED BIPHENYLS

FINDINGS

1. The SUNOHIO nationwide PCB disposal permit granted on January 8, 1985, expired on December 31, 1987. As part of the renewal procedure, EPA decided to forego the formal PCB disposal approval procedure to demonstrate capabilities of the PCBX™ process because of EPA's scrutiny of the SUNOHIO PCBX™ process during the preceding eighteen months. EPA audited and inspected the PCBX™ operations on ten occasions. The results of the demonstration audits and inspections verified the efficacy of the SUNOHIO PCBX™ Process. The PCBX™ Process was determined to be equivalent to incineration and to pose no unreasonable risk to human health and the environment, and therefore not requiring formal confirmation of "no unreasonable risk" through the PCB disposal demonstration process.

2. SUNOHIO, Inc., Canton, Ohio, proposes to chemically destroy polychlorinated biphenyls (PCBs) in LHCP using one or more mobile units. In May of 1990, SUNOHIO Corporation became a wholly owned subsidiary of American Nukem Corporation, Mahwah, New Jersey. SUNOHIO is the sole operator of the chemical destruction process which is called the PCBX™ Process.

3. In the demonstration at Navarre, Ohio, MODEF containing PCBs was fed into operating rigs No. 5 and No. 6 and mixed with a reagent which removed the chlorine atoms from the biphenyls. Three separate runs were conducted for each rig, producing inorganic chloride and hydroxide, and polyphenylene as by-products. Treatment continued in the PCBX™ system until SUNOHIO, through its on-site analysis, confirmed that the concentration of PCBs in the MODEF had been reduced to the EPA-designated level of less than 2 parts per million (ppm) per resolvable gas chromatographic peak. The by-products were filtered from the MODEF, and the filtered fluid was returned to on-site storage tanks.

SUNOHIO recorded and retained written and graphic verification of the analyses and submitted verification to EPA. SUNOHIO provided analytical data and samples of treated MODEF to EPA throughout the course of the demonstration.

Pertinent test results were submitted to EPA in a test report dated October 15, 1984. These test results demonstrate that the SUNOHIO PCB Destruction Process is capable of destroying PCBs in MODEF, but that the Process results in a waste centrifuge sludge with PCB levels above the limit of detection (LOD) (greater than 2 ppm per resolvable gas chromatographic peak). On duplicate tests of MODEF at 2,600 ppm PCBs, SUNOHIO had no detectable PCBs in the treated oil and in the spent filter media, (a waste product), but the waste centrifuge sludge contained PCB levels above the limit of detection in all tests.

As observed in July 1986 during transformer processing operations in Jenkintown, Pennsylvania and in May 1987 in Lovingston, Virginia, on termination of operation at a site, there are cases where piping or hoses on the feed side of the PCBX™ units may contain MODEF which have levels above 2 ppm PCB. Oils having levels above 2 ppm PCB must be disposed of as if they contained PCBs at the level of the original MODEF.

4. May 1987 Demonstration: The demonstration was conducted at a Central Virginia Electric Cooperative substation located in Lovingston, Virginia. MODEF at a PCB level of 1,054 ppm PCBs was processed for demonstrating the modified PCBX™ operation for permit approval. The demonstration test report was submitted by SUNOHIO on June 3, 1987. Split samples of process fluids taken by EPA representatives were analyzed by the EPA laboratory. EPA laboratory results were compared with those of the SUNOHIO laboratory. The lab results were within acceptable levels.

5. February 1988 Demonstration: SUNOHIO, Inc. submitted a Demonstration Plan on February 22, 1988 to treat MODEF containing over 2,600 ppm PCBs at a PCB level of about 10,000 ppm, with the following objectives:

a. To increase the permitted PCB feed level to above 10,000 ppm.

b. To demonstrate that the Fuller's earth filter media can be cleaned to a level below 2 ppm PCB per resolvable gas chromatographic peak.

c. To demonstrate the use of an additional decant tank in the centrifuge system (tertiary effluent tank).

d. To demonstrate the use of a combustible gas monitor and alarm system as required by Condition No.10 of SUNOHIO's EPA TSCA Approval issued 12-23-88.

SUNOHIO, Inc. demonstrated the PCBX™ Process during the week of February 29, 1988 with MODEF spiked to levels above 14,000 ppm PCBs. Results of the tests are summarized.

(1) Three tests runs were completed with MODEF feed with PCB concentrations 14,000 ppm (Run No. 1), 15,000 ppm (Run No. 2) and 6,300 ppm (Run No. 3). MODEF in all test runs were treated successfully below the PCB detection limit of 2 ppm per resolvable congener peaks.

(2) The Fullers earth filter media was cleaned in-process during the three runs. Extract solvent from samples of spent earth media showed Aroclor 1260 patterns in chromatograms when analyzed for PCBs. Therefore, samples of earth media must comply with both criteria for 2 ppm PCB per resolvable peak and total PCBs per recognizable Aroclor pattern to be classified TSCA nonregulated material. Earth media from the first and third runs indicated PCBs below the 2 ppm level. However, results from the EPA laboratory indicated filter media from the second test contained PCBs over 2 ppm. Results from the SUNOHIO, Inc. laboratory showed earth samples from all three runs to be below the 2 ppm PCB level. PCB concentrations of the MODEF feed from the three runs and analytical results from the laboratories are tabulated below:

Test No.	PCB Concentration, MODEF Feed, ppm	Earth Media, ppm PCBs EPA Lab	SUNOHIO Env. Lab
1	14,000	LT* 2 ppm	1.7 ppm avg.
2	15,000	3.27 ppm avg.	1.6 ppm avg.
3	6,300	LT 2 ppm	0.05 ppm avg.

*LT = less than

Analytical results indicate the presence of PCBs greater than 2 ppm in the earth filter media when treating MODEF with greater than 6,300 ppm PCBs. In addition, the SUNOHIO, Inc. Central Laboratory failed to quantitate PCBs in the filter media sample from Run 2, in contrast to the EPA laboratory results which indicated a major peak in the chromatogram in the region of the Aroclor 1260 pattern.

(3) The decant tank added to the PCBX™ unit was observed to function satisfactorily.

(4) Specifications for seven different combustible gas monitoring and alarm systems were submitted to USEPA on September 30, 1987. SUNOHIO, Inc. selected one of the systems and satisfactorily demonstrated the unit for the Warning Alarm set at 20% of the LEL (lower explosive level) and the High Alarm set at 50% of LEL.

(5) Worker exposure to PCB vapors in the workplace was a concern during the demonstration. SUNOHIO, Inc. has collected data to show that workplace air quality complies with the OSHA permissible exposure level (PEL) for PCBs of 1 mg/m^3. However, the data was accumulated under the TSCA approval which limited the feedstock concentration to 2,600 ppm. When processing feed of greater than 10,000 ppm, the frequency of replacement for filter elements from filter units is significantly higher. Because the housing must be disassembled for filter element replacement, oil vapors potentially containing PCBs are discharged more frequently into the workplace environment.

(6) Because of concern for worker exposure to PCBs, SUNOHIO it is necessary for SUNOHIO to collect worker exposure data.

May 1991 Demonstration: SUNOHIO requested in a letter dated April 1, 1991 to allow the use of an additive in the PCBX™ process. The company demonstrated the use of the additive during the week of May 13, 1991 at the Regional Wastewater Treatment Plant in the City of Hopewell, Virginia. SUNOHIO claims that the additive promotes the dechlorination process when the reaction is inhibited by competing materials. Because SUNOHIO could not locate MODEF with reaction inhibiting characteristic for the demonstration, EPA believes that SUNOHIO did not demonstrate the reaction enhancement properties of the additive. EPA believes a potential exists for by-products to be formed which may interfere with chemical analysis of PCBs or which may mask the presence of PCBs at detectable concentrations. No problems with analysis surfaced during the demonstration and EPA split samples confirmed SUNOHIO's analysis. All treated MODEF contained levels less than 2 ppm PCBs.

The SUNOHIO demonstration at Hopewell, Virginia was conducted as described in the SUNOHIO Memorandum dated May 2, 1991. Three transformers were treated ranging in concentrations from about 1500 ppm PCBs to 270 ppm PCBs.

6. The EPS PCBX™ Process is a totally enclosed process that is capable of treating PCB-contaminated MODEF and other oils on-site through the use of mobile units. The totally enclosed process, which is designed with specific features to prevent and control spills on site, minimizes the potential for exposure to workers and the general population (the exact description of the equipment to be used is on file at EPA Headquarters). In addition, the on-site treatment capability of the EPS mobile unit virtually eliminates the potential risk of a spill PCB materials during transportation.

Transportation costs contribute significantly to the total cost of disposal. Since the on-site treatment capability of the EPS mobile unit will eliminate or reduce transportation of waste, the total cost of disposal may be reduced. Small generators of PCB waste, in particular, could benefit from the reduced cost of disposal.

7. The EPS PCBX™ Process, as designed and operated, should not emit harmful materials into the environment. Solid wastes are produced in the form of spent filter media and sludge. These solid wastes contain polyphenylene substances, inorganic chlorides and hydroxides, water, and a small amount of treated MODEF. This composition, as determined in previous testing for waste material from the treatment of influent oil with a PCB concentration less than 500 ppm, does not present an unreasonable risk of injury to human health or the environment.

It is necessary for EPS to protect life and property from the hazards of combustible gases formed during the PCBX™ operations.

8. In the event of a malfunction during treatment, the EPS mobile unit is designed to allow PCB-containing fluid to be returned to the original transformer or tank. This fluid can then be treated again.

9. EPS has developed and filed with EPA a closure plan for terminating EPS mobile units. This plan includes the decontamination and disposal of PCB-contaminated equipment or process materials, and testing of the equipment or process materials before it is removed from service to assure that no PCBs are present.

10. It is necessary for EPS to provide EPA with a description of its training program for EPS process operators and technicians. This program is necessary to help ensure that operation of the EPS mobile units is in compliance with applicable safety and health standards. A training program should encompass:

a. safety, recordkeeping, and sampling and analysis;

b. operational procedures for using, inspecting, repairing and replacing EPS mobile facility equipment, including the monitoring and control system; and,

c. spill prevention, cleanup, and emergency response procedures.

11. In 1979, EPA estimated that there were approximately 750 million pounds of PCB material in use in the United States (U.S.) and an additional 20 million pounds in storage awaiting safe disposal. This backlog of PCB waste awaiting disposal has increased substantially due to several PCB

regulations. The 40 CFR 761.65(a) storage for disposal requirements limit the storage of all PCB material stored for disposal to one year. This one-year deadline became effective on January 1, 1983. In addition, the use conditions under 40 CFR 761.30 require that transformers and large capacitors near food or feed in unrestricted areas be removed from service by 1985 and 1988, respectively.

High temperature incineration is a proven destruction method for liquid and nonliquid PCBs and is particularly effective in destroying high concentration PCB waste. However, only six incinerators have been approved for commercial destruction of PCBs in the U.S. (only two of these are mobile facilities). The availability of the EPS mobile unit(s) would provide additional PCB destruction capacity for low concentration PCB waste (less than 500 ppm) and relieve the strain on incineration capacity for destruction of PCB waste between 500 and 14,500 ppm.

12. The EPS PCBX™ Process has a level of performance equivalent to that of the required thermal destruction methods (incinerators and high efficiency boilers). In the preamble to the PCB Ban Rule, EPA expressed the expectation that approved incinerators (40 CFR 761.70) would achieve a destruction and removal efficiency of 99.9999% and that high efficiency boilers (40 CFR 761.60), which may be used to destroy PCBs in concentrations up to 500 ppm, would achieve a DRE of 99.9% or greater. While those percentages provide general guidance to determine the approximate destruction efficiency goals for alternate PCB disposal methods under 40 CFR 761.60(e), other factors may be considered in the determination of equivalency.

For example, the mathematically calculated PCB destruction efficiency of the EPS PCBX™ Process may be less than that achieved by an EPA-approved incinerator or high efficiency boiler, because the practical limit of detection of PCBs in oils is 2 ppm. However, this is offset by the fact that there are no detectable PCBs in the treated fluid at a detection limit of 2 ppm per resolvable gas chromatographic peak, no detectable PCB emissions, no worker exposure to PCBs, reduced risks associated with the virtual elimination of PCB storage and transportation. Additionally, waste materials which have not been demonstrated to contain no detectable PCBs must be disposed of as if they contained PCBs at the concentration measured in the original influent oil.

13. MODEF has properties similar to other oils but not similar to all LHCPs.

14. Pursuant to 40 CFR 761.60(e) and the aforementioned findings, EPA finds that the EPS PCBX™ Process (when operated in accordance with the approved permit application and under the conditions described below) is equivalent in performance to an EPA-approved incinerator or high efficiency boiler for treatment of MODEF and other oils and that it does not pose an unreasonable risk of injury to human health or the environment.

15. On September 28, 1990, SUNOHIO requested EPA to amend several permit conditions. EPA denied SUNOHIO's request to reduce the advance notification from 30 to 15 days, to revise the requirements to update the recorded message from twice per day to once per day; and to eliminate the requirement to report lost-time injuries to the regional EPA contact and administrator. The

denial was based on EPA's need to receive information in a timely manner for the purpose of scheduling and other administrative objectives.

EPA approved SUNOHIO's request to have the definition of mobile operation expanded, not from 90 days to one year as requested, but from 90 days to 180 days. EPA believes that extending the definition of mobile operations from 90 to 180 days, while providing for inputs from local

agencies and the public, gives ample opportunity for disclosure of any factors affecting human health and the environment. SUNOHIO must notify local authorities and the public of intent to operate for periods longer than 90 days at a single site. Site specific information will be necessary only to the extent required to satisfy the public participation process.

EPA denied SUNOHIO's request to have the aqueous phase of the byproduct stream be identified as non-PCB. However, EPA approved the transport of the aqueous phase to a specified RCRA[1] POTW - Publicly Owned Treatment Works-approved treatment facility. The facility also operates under a pretreatment standard pursuant to the Clean Water Act. OPPT will allow SUNOHIO to dispose of the aqueous stream at the CyanoKEM, Incorporated facility in a neutralization process and discharged into a NPDES[1]-permitted POTW[1] system. OPPT believes that authorizing this specific method of disposal is advantageous because:

- neutralizing RCRA waste with the aqueous byproduct reduces the total waste stream to be disposed of by incineration thereby decreasing the pressure on already strained incinerator capacity;

- neutralizing RCRA waste with the aqueous byproduct reduces consumption of raw material and decreases the total waste stream by the combined SUNOHIO and CyanoKEM processes;

- by restricting the byproduct PCB level to that which the CyanoKEM facility can accept (0.1 ppm PCB) to comply with the discharge limit of 0.0005 ppm Aroclor 1260 and 0.001 ppm total PCBs imposed by the Clean Water Act, the final disposition of the byproduct is ultimately controlled for disposal and therefore imposes no unreasonable risk to human health and the environment.

Since the sampling and analysis requirement of the NPDES permit does not include PCBs, OPPT will require SUNOHIO to monitor the discharge for compliance with the PCB limits.

EPA approves a change in Condition 10 to allow for an MSA- type monitor or "equivalent" for monitoring combustible gas. In addition, EPA extends the permit term to five-years. OPPT grants this request considering EPA's limited resources. The extension becomes effective upon permit re-issuance.

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1 RCRA - Resource Conservation and Recovery Act
NPDES - National Pollutant Discharge Elimination System

APPENDIX III A

TO THE EPS PCBX™ APPROVAL TO DISPOSE OF POLYCHLORINATED BIPHENYLS

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SAMPLE EPS PCBX™ PROCESS 30-DAY ADVANCE NOTIFICATION FORM

Client Name: EPS Contact:
Client Address: Phone:

Contact:
Phone:

Type of PCB Disposal Activity:

Amount and Type of PCB Material:

PCB Concentration Range:

Scheduled Time(s) and Date(s):

Contacts and Phones:

EPA - Wash., D.C. EPA Region State Agency Local
Hiroshi Dodohara
1200 Pennsylvania Ave., N.W.
Wash., D.C. 20460
202-566-0507

Site Locations:

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ENCLOSURE

APPENDIX III B

TO THE EPS PCBX™ APPROVAL TO DISPOSE OF POLYCHLORINATED BIPHENYLS

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SAMPLE EPS PCBX™ PROCESS TWO WEEK ACTIVITY SCHEDULE FORM

Period Covered:

EPA Region	Date	Most Probable Operating Date(s) & Time(s)	Scheduled No. of Sites	County(s) of Operation or Central Location & Contact Phone No.

Week No. 1:

Week No. 2:

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ENCLOSURE

APPENDIX III C

TO THE EPS PCBX™ APPROVAL TO DISPOSE OF POLYCHLORINATED BIPHENYLS

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SAMPLE THIRTY DAY NOTIFICATION FORM FOR CONDITION NO. 1

Company Name, Address, Phone Number, and Contact Person:

Person, Organizational Affiliation/Title, and Phone Number for:

EPA Regional Contact:

State Contact:

Local (Town/City/County) Contact:

Nature of the Disposal Activity:

Kind of PCB Disposal Process:

Kinds of Material Containing PCBs:

Numbers and Sizes of Pieces of Equipment Containing PCBs:

Quantity of Solids and/or Volume of Liquid(s) Containing PCBs:

Concentration(s) of PCBs in the Material Treated:

Location

Street Address or Other Identifier for All Sites:

Telephone Contact and Address for Site Manager:

Time of Processing

Date(s):

Time(s):

****

Enclosure

APPENDIX IV

Procedures for Sampling Fullers Earth

A representative sample of fullers earth is to be taken as follows. The representative sample shall consist of a composite of no fewer than ten parts. Each part of the composite is to be placed together in a single container and the composite thoroughly mixed. A sample from the composite is then to be taken for chemical analysis and the results of the analysis is to represent all of the population from which the parts of the composite were taken.

The populations to be represented by the composite sample may be any number of containers, such as 55 gallon drums or large bulk containers, or covered bins. Samples are to be collected from no fewer than ten percent of the containers of fullers earth in a population. If ten percent of the total number of containers in the populations is fewer than ten containers, then the composite will be aggregated from at least ten different subsamples. If there are more than ten containers, the containers where sample collection occurs is to be selected using statistical random sampling techniques documented in EPS's records. If there are ten containers, one sample shall be collected from each container. If there are fewer than ten containers, then one sample is to be collected from each container and the remainder of the samples are to be collected from containers selected according to statistical random selection techniques documented in EPS's records. Individual sampling collection locations and sample collection procedures within a container are described below.

A sample to be used in the composite shall represent the entire depth of the container from which it is taken. This means that grab samples scraped from the surface or taken from any particular judgmentally selected depth of the container are unacceptable. A one half inch to one inch interior diameter core sample, where the core is bored virtually through the fullers earth and collects all material from the complete depth of the container, is required. The collection location for all samples is accessed from the top of the opened container. The starting point for the core is on the visible surface of the fullers earth. The samples are to be located according to the following sequence.

a. The first sample is to be started from the top center of the container.

b. The second sample is to be started at any point midway between the first sample and the edge of the container.

c. The third sample is to be started at a location on a line through the location of the first and second samples at a location midway between the first sample and the container edge on the opposite side of the container from the second sample.

d. The fourth sample is to be started on a line perpendicular to the line formed by the first three samples and midway between the first sample and the edge of the container.

e. The fifth sample is to be started at the midpoint between the first sample and the point of the container edge on the opposite side of the container from the fourth sample.

f. The sixth sample is to be started midway between the first sample and the edge of the container on a line equidistant between the second and fourth samples on the side of the container closest to the second and fourth samples.

g. The seventh sample is to be started midway between the first sample and the edge of the container on a line equidistant between the third and fifth samples on the side of the container closest to the third and fifth samples.

h. The eighth sample is to be started midway between the first sample and the edge of the container on a line equidistant between the third and fourth samples on the side of the container closest to the third and fourth samples.

i. The ninth sample is to be started midway between the first sample and the edge of the container on a line equidistant between the second and fifth samples on the side of the container closest to the second and fifth samples.

j. The tenth sample may be started anywhere on the top surface of the container, at a location not yet sampled, and inside of a figure formed by drawing a line through the second through ninth sample locations.

According to the above procedures for selecting container to be sampled, all ten locations would only be necessary only if there were only one container in the population. An example of the locations of the ten sampling sites viewed from the top of a rectangular bulk container appears below.